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JANUARY 1967

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ARTS & ARCHITECTURE is published monthly by Arts & Architecture, Inc., 3305 Wilshire Boulevard, Los Angeles, California 90005. Established 1911. Second class postage paid at Los Angeles, California. Priced mailed to any address in the United States, \$7.00 a year; to foreign countries, \$8.50 a year; single copies 75 cents. Editorial material and subscriptions should be addressed to the Los Angeles office. Return postage should accompany unsolicited manuscripts. One month's notice is required for a change of address or for a new subscription. The complete contents of each issue of ARTS & ARCHITECTURE is available to subscribers in a Microfilm edition.

Vol. 83, No. 12

NOTES ON AD REINHARDT'S EXHIBITION

I was quite willing to see Ad Reinhardt's exhibition of one hundred twenty paintings at the Jewish Museum in his own terms. I mean the terms that abide in his accumulated statements, lurking behind the extensive persiflage. In all his pronouncements, it seems to me, Reinhardt expresses a simple faith in the painting itself as a self-justifying entity, an autonomous presence, no matter how the presence is arrived at.

To take his painting in these terms would be to de-emphasize the role of "conceptual" painter cast upon him by critics. If his long story of darkness were nothing but an attenuated concept, the paintings themselves would need no exposure. Reinhardt is still a painter: a man making a thing, a thing that didn't exist before he made it. "Intellectual speculation alone is unable to make anything. It cannot move matter." (Gilson)

In his paintings, Reinhardt is indeed moving matter. And he is moving it within time-honored conventions. He has never departed from the established routes of the modern tradition, basically, and he has never abandoned the lure of the two-dimensional surface as something to be transformed via painterly illusion.

For those who want to see "facts" instead of paintings, it is convenient to take Reinhardt's singular apparition as a leader in the 1960s as a sign of his linguistic uniqueness. But Reinhardt has not scuttled the language of his predecessors, the language of canvas, brush, pigment. He has, like any decent poet, found his own figures to express in an inherited language. In this lies his singularity, not in his sudden access of charisma among the young.

* * *

The argument that raged between the wars among the purists in the camp of Mondrian and the impatient younger painters who wished to break the commandments of the father is reflected in Reinhardt's earliest paintings in the show.

Remember how Doesburg's defection caused Mondrian great pain. Doesburg ruptured the magic circle by introducing diagonals which, to Mondrian's theological mind, were too close to the organic chaos of nature. Others began to break into multicolored fantasies which partook equally of late Cubist devices and formal rigors established by Mondrian. In France in the late thirties and early forties—the France to which all New York painters looked at the time—a rather free geometric art flourished. It is to this development that Reinhardt owes his original insights into his own temperament and goals in painting.

Many of those early paintings of Reinhardt's bear great physical resemblance to scores of paintings exhibited in French salons. Even his later works, those in which he reduces the scale of hues, and in some cases, uses a single color of various intensities throughout his composition, are in principle related to many European works of that period. Further: the very paintings that came to be called "black" paintings (which like Goya's black paintings are rarely black) were not startling innovations. I think of Vasarely's experiments with close-toned, very dark geometric paintings.

In provenience, then, Reinhardt's language is not unique. But Reinhardt's paintings *are* unique. They are unique in the way he has translated a certain painting penchant into a style. That penchant is seen in various painters through art history—those who take great delight in value painting.

* * *

By definition, a value in painting is discussed in terms of lightness or darkness. It is therefore absolutely relative. If a dark area is adjacent to a light area, the value of each is relative to the position of each. Determining the exact value of a color or tone, therefore, is never simple, and always subject to modification.

Painters cannot function without a sense of values since the visibility of their image depends on the contrasts. There have been painters in history who have found this truth a tantalizing proposition. They have played with the extremes in order to place the

ultimate value on value. The obvious satisfactions a Chardin felt when he placed a pale ocher plane adjacent to an almost equal-valued pale neutral, going to the limits of similarity to establish dissimilarity, can be cited. Or the clear preoccupation with the margins of the visible in Seurat's subtle conte crayon drawings is a good example. Seurat often graded his neutrals in such close consonance that form emerges only after the eye can adjust to the minimal difference in light and dark, or value.

Reinhardt, after his 1953 renunciation of brighter color and "principles of asymmetry and irregularity," joined the ranks of the many painters in history who have played for ultimate stakes against the law of contrasts. He undertook, in his so-called black paintings, to diminish contrasts almost to the point of no visibility. In the "almost" lies his art.

* * *

The Latin estheticians talked of "*claritas*." To St. Thomas, that *claritas* was still associated with bright colors. Radiance, for him, was brightness. For James Joyce, *claritas* was subtilized. It became quiddity, or whatness. Essence, if you like.

Reinhardt, by driving us to the lowest registers of the light scale seems to be aiming at quiddity. His *claritas* is slowly emergent, very slowly emergent, but it is there.

It is there even in the Thomist sense because it is, after all, dependent on color.

Since the 1930s abstract artists have insisted on the autonomy of color. The more metaphysically inclined have turned to phenomenology, saying that color is an *essence* that doesn't exist *in* things, but is structured by the perceiving consciousness.

An art of "essences" independent of the phenomenal world is that "non-pictorial" art to which Reinhardt has always been drawn.

He arrives at his point of departure (and of no return?) late. Only in the middle fifties does he push to the edge of darkness. He does it everywhere at once: eliminates his interlocking compositional devices; eliminates striking color contrast; eliminates ambiguity of any kind, save that of light.

Or color.

There is only one way to look at his paintings, or anyone else's for that matter, and that is one at a time. Even the many identical formats—five feet by five feet—are identical only physically. The painted illusions are each unique.

What are we looking at? In the later work, a scheme described as a vertical and horizontal trisected. But the schematic division of space (and I insist that the resulting nine squares are nine different spaces) is not, as he suggests in his title "Ultimate painting," ultimate. For in each painting, Reinhardt paints. He produces square forms clearly visible not only in terms of their matter, which is painted with a brush and leaves the mark of the hand there, and which leaves an ever-so-slightly raised edge, but importantly, in terms of their color.

The "black" is rarely dead black. It has a filmy intonation which ranges from blue-black to ocher-black. The horizontal sections are, except in about two instance, visible thanks to variations in value. In some paintings, there are tones of purple, blue, red-brown which must be read both in terms of value and chroma. Therefore, the distribution of *light*, of *claritas*, is different each time and Reinhardt, in spite of himself, winds up with a long series of differing compositions. (How sections of light and dark values coalesce is, after all, a matter of composing.)

* * *

If painting were purely conceptual, which I doubt in all cases, then these individual variations would be *de trop*. Reinhardt is still making an autonomous thing, a thing which is like no other, not even its seemingly identical neighbor on the wall.

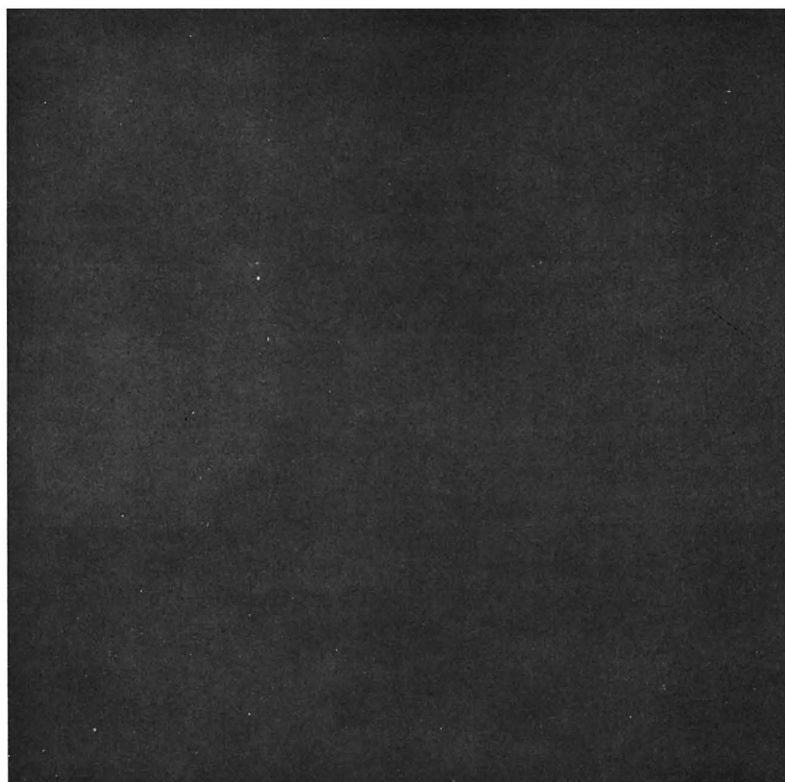
Those colors, no matter how dusky, emerge.

* * *

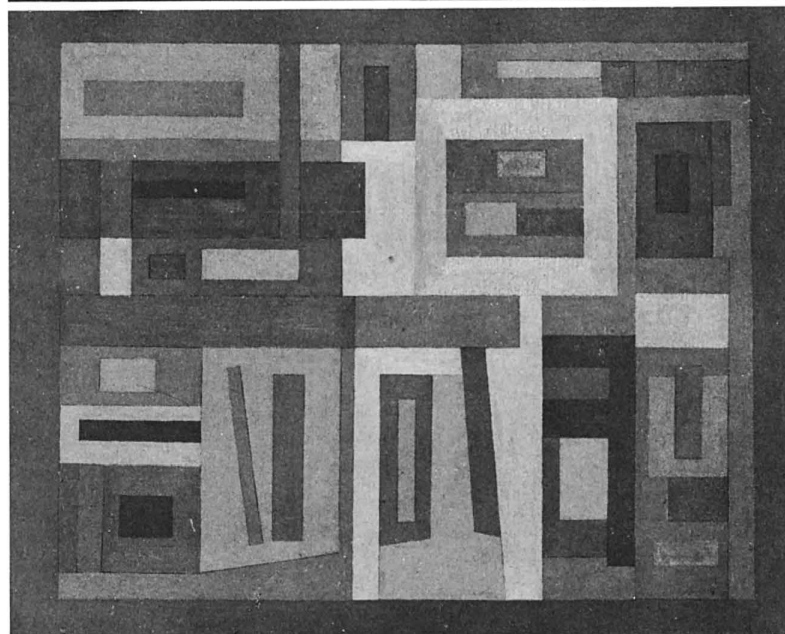
Painters of Reinhardt's persuasion from the beginning (first decade of the century) tried to leave the conventional idea of "form" behind. In their minds, specific forms are associated with nature, not art. Reinhardt speaks, after all, of the "schemata behind all schemata" and that cannot be in nature, but only in man's imagination.

Physically, however, form, like color, insists upon itself, even in his black paintings. The boundaries created by difference in value

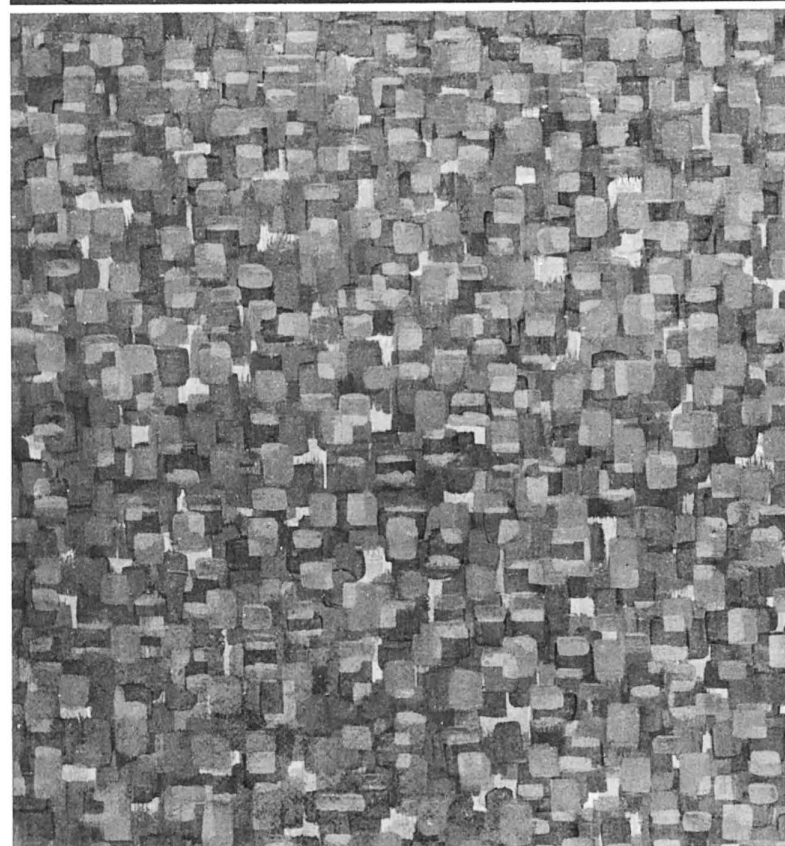
JANUARY 1967



Oil on canvas, 60" x 60", 1960-66



Oil on canvas, 16" x 20", 1938



Oil on canvas, 60" x 40", 1949

Photos by Gretchen Lambert

impose a form, a structure to the matter he works with. In these paintings, there are forms. They may be read as phantom forms but then so are the forms discerned in many other paintings by "pictorial" painters. (How else can the black masses in a Bresdin lithograph be read? Or a Redon lithograph? Or the background variations in Goya's prints?)

The spaces articulated in these close-valued paintings are as much dependent on those color-forms as in any traditional abstract painting. The spaces are given in the closest, most agonizingly subtle terms, it is true, and the quick eye may not be moved by them. But the eye accustomed to accustoming itself to any visual experience, will ultimately discover the different registers of space, or rather plane, in each Reinhardt painting. Not a window space, not a field either. A space that is articulated in terms of infinitely slight dissimilarities. For a painting is made by a hand, at least in Reinhardt's case, and a hand is an extension of an eye, and an eye depends on the imagination to create representations. So a painting by Reinhardt is a representation of an imagined, possible, thing, an essence, *quidditas*.

* * *

Another painter who admires Reinhardt said to me: "I always think of Kierkegaard's idea that a man becomes a man by repeating himself." Whatever this may mean in the more obscure reaches of Kierkegaardian metaphysics, for this painter it has something to do with Reinhardt's insistence on repeating the same image, albeit with variations, from year to year.

Which brings me to my own experience in the galleries. While I looked at each painting as a painting, I could not ignore the fact that the ensemble of dark paintings was working upon me in another way.

From such experiences of surround come the many mystiques that spring up around this man's oeuvre. While he is above all a painter in the commonsense way I choose to interpret painting, Reinhardt is something else too, something all critics have tried to define with reference to his interest in Eastern religion, to his sermonizing, his moral stance in worldly affairs, and his obvious attraction to religion, even Catholicism.

Reinhardt is of course something of a transcendentalist, and something of a puritan. His esthetic has more in common with Mallarme than it has with any other artist I can think of. It was Mallarme who tried to escape the anguish of creating with a dream of The Book, the Great Work, the Ultimate. It was Mallarme who wrote to his friend that all he had done in poetry was in terms of elimination, and that "destruction was my Beatrice." Mallarme wrestled with his angel and announced again and again that his "thought had thought itself through to pure Idea," and yet . . . And yet, he never wrote the Great Work (which he said was a term lifted from the alchemists of other times) and he never succeeded completely in expressing Pure Idea, though he had seen it in his countless visions.

Reinhardt is probably not joking when he paints his Ultimate painting. Like Mallarme, he dreams it. But then, artists always dream a terminal dream which they are fortunate enough never to realize. By edging up to the abyss, and then living fearfully, ecstatically on its brink—as he does in the closest valued paintings—Reinhardt has an experience comparable in religious intensity to that of Mallarme with his high moral combat.

The key to Mallarme's delusions lies perhaps in his repetition of words such as "as if" and "perhaps" and "if"—the words that are writ large in *Un Coup de Des*. . . .

Reinhardt paints this delusional if and as if. He even calls his paintings black paintings, *as if* they were.

* * *

Like the poet, Reinhardt dislocates and changes the temporal relationships within his paintings. A viewer cannot use the same time scale in a Reinhardt as he can in a Kelly, for instance. The low values demand adjustment, and color reveals itself only after contemplation. Contemplation, in turn, shifts the psychology of the imagination into a realm that is beyond practical action. The practical intellect has no function in the apprehension of these paintings, just as it falters in the face of Mallarme's great typographical disjuncturing, his layering and laminating of imagery as if in the slipping and sliding time of the mind in throes of reverie.

(Continued on page 31)



ANDRE BLOC 1896 - 1966

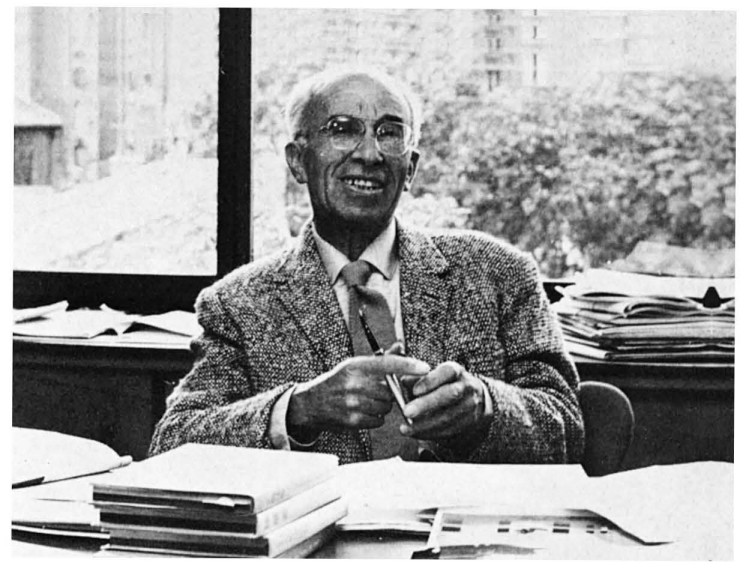


Photo by Michel Moch

Andre Bloc, engineer, sculptor and publisher of *L'Architecture d'Aujourd'hui*, died November 8 in a tragic fall while visiting the ruins of an ancient Indian temple at New Delhi. Diminutive physically but in no other way, Andre Bloc was passionately devoted to the causes of contemporary art and architecture. He is described by Roger Bordier as not only "knowing, analyzing and understanding his epoch. He practiced it."

Born in Algiers, he studied in Paris and, after graduation from *l'Ecole Centrale de Paris*, founded *L'Architecture d'Aujourd'hui* there in 1930. It is a bimonthly magazine which in many if not a majority of respects is the best and most successfully comprehensive review of contemporary architecture being published. The course of postwar architecture throughout the world has been documented in its pages since it resumed publication after the war. Where other journals seldom stray beyond their national borders in search of material—and suffer thereby—*L'Architecture d'Aujourd'hui* has been unhesitatingly international in scope. Andre Bloc's concern was not with the geography but with the contemporaneity of the architecture; his ambition was to overcome by persuasion the forces obstructing progress. "The vast public," he wrote, "concerned with the conservation of the past, approves appropriations for the preservation of old houses, visits chateaux, buys costly works consecrated to the celebration of this rich patrimony. But this same public cares little for the architecture and art of its time. It can't see that it is possible to create an excellent urban environment with contemporary architecture of the highest level. It follows the same rules and constraints that brought on the disorders of the world, the vulgar and aggressively ugly, as if this were the inevitable result of industrialization or technological progress."

We publish below a statement made by Andre Bloc at the time of his last visit here in the summer of 1965, and a brief tribute to M. Bloc by Madame Renee Diamant-Berger, a colleague of 19 years and an editor of *L'Architecture d'Aujourd'hui*.

The photograph on the facing page is Andre Bloc's last work, an 80-foot tower in the garden of his home at Meudon, a suburb of Paris. **D.T.**

Where is modern sculpture going?

This is what all the sculptors are asking themselves; some of them think they are answering this question by doing work which performs

practically the same roles as painting and they are providing the collectors, the museums and the art critics with "object-sculptures" which are three dimensional paintings. These "object-sculptures" can't, certainly, constitute the main activity of the sculptor.

Our world, as permeated as it is by poetic elements, still needs the help of all its artists to realise an environment worthy of the human race. But blinded by the extraordinary progress of technics, our contemporaries think they have opened the doors to a great civilisation. They are mistaken. If science and technology are not dominated by a great culture, they can lead us to the worst disaster, not only the cataclysms of war but also the break up of a very old culture acquired over the centuries.

All the countries colonized during those centuries have seen the disappearance of their cultures, of everything characterizing their way of life which means primarily their art values. The colonist, who pretended to a higher civilization, has not been able to replace those values.

But let's come back to the role of sculpture in our world where the indifferent masses have little or no use for the efforts of artists. The artists have the duty to participate directly in everyday life in order to fulfill this role. How could they better do it than by contributing directly to the enrichment of the setting of the everyday life? They must participate in the improvement of an architectural and urbanistic order not only by adding to it works of art but by a direct involvement in the elaboration of new architectural trends.

Many artists have become aware of their role. There are symposiums being organized here and there around the world but these are only ephemeral moments, though needed exchanges of points of view between artists are taking place and important works of art are created. The real answer is an everyday work directed towards architectural creation. This is how the sculptor can play a conclusive role in the world of tomorrow, using all the new means of modern techniques and assuming a position of leadership in a world of technicians.

ANDRE BLOC

Long Beach, August 1965

Translated by Irene Shapira

Many days have already passed since November 8, the fatal date on which Andre Bloc's life came to an end at New Delhi . . . A misstep while photographing the ruins of a temple caused his mortal fall. This sudden loss is all the more cruel that it occurred while on a trip to India and Japan with his wife, his constant companion, a trip he had looked forward to with great happiness.

Guillaume Gillet wrote: "This death, coming at a moment of discovery of beauty, was faithful to his life, seeming to fulfill it in one final gesture of love for beauty."

Every day has overflowed with evidence of the place Andre Bloc occupied in the world of the arts. He was, said Alexandre Persitz, editor in chief of *L'Architecture d'Aujourd'hui*, from 1947-64, the "conscience" of contemporary architecture. Others, like Pierre Vago, Marcel Lods and Charlotte Perriand, who have been at his side since the founding of the journal in 1930, say that Andre Bloc's life is inextricably a part of the period of struggle and hope for an architecture contemporary in spirit and based on undeviating, uncompromising integrity.

He constantly reminded us that the plastic arts, of which architecture is the first, must be joined to each other so that man may have an harmonious and stimulating environment surrounding his life, his work, his leisure . . . Art, he said, should bring joy to each human activity and an awareness and need for beauty.

He rebelled against the mediocrity which unfortunately satisfies most people. He fought the public functionaries, those ignorant of or unconcerned by the suppressive weight and extensive harm of their decisions. He fought against those architects without conviction who bent to the demands of the builder. He had, and required of others, the highest standards, a noble vision, a spirit directed to the future in an unceasing effort and will to create.

The man, the sculptor, the founder and spirit of his two magazines, leader of the movement of architects and artists looking to an integration of the plastic arts with architecture, the creator of so much that lives on, all these facets blended in a unity so complete that one is at a loss to separate them.

He gave of himself completely, with faith, with joy, with a serene and lucid awareness, with a brilliance and enthusiasm that made him capable of grasping solutions to problems as complex, for example, as the regional planning of Paris. His proposal for a Parallel Paris remains to this day the only valid one.

Madame Andre Bloc will continue the work of her husband. We shall support her with all our strength, we who have had the joy and privilege to work beside him for so long, who have come to understand and believe in the need for the exchange of ideas he strove for, to admire the accuracy of his judgment, the youthfulness of his spirit, the warmth of his friendship. *L'Architecture d'Aujourd'hui* will live because of the *elan*, the enthusiasm, the principles he instilled in each of us.

RENEE DIAMANT-BERGER

theater

BYRON PUMPHREY

In staging Jean Anouilh's *Medea* at the Coronet, Frank Silvera had an interesting and creative approach to the play, but unfortunately it was only partly realized on stage. As the myth is treated both by Euripides and Seneca, the tragedy is about a woman to whom love is everything. Thus, when Jason deserts her, she takes awful revenge.

In Anouilh's play this element is also present, but the focus is shifted to what Sartre calls a conflict of rights within the situation confronting the characters. Speaking for the dramatists who emerged in France after World War II, Sartre wrote:

"As a successor to the theater of characters we want to have a theater of situation; our aim is to explore all the situations that are most common to human experience . . . For us a man is a whole enterprise in himself. And passion is a part of that enterprise."

It was for this reason that Anouilh and others took to writing plays about the great myths of death, exile, and love. They are relevant to modern man because in them he can study the working of his passions without plunging into the contemporary world surrounding him. The idea is to induce a kind of dramatic detachment that will provide a clearer insight into the here and now.

Silvera's approach is to give the tragedy overtones that would help one comprehend the feelings of hate and destruction that produced the Negro riots in Watts and elsewhere. To the objection that this is straining the context of Anouilh's variation on a Greek classic, it can be said that an examination of the English version of the author's work by Luce and Arthur Klein lends some support to this treatment.

The setting, according to the text, is simply some place on a plain not far from Corinth. There is a wagon and a fire. Silvera's set shows a barren, rocky, desolate place, with a path leading to the city in the distance. Also a wagon and a fire.

The role of Medea is played by Bea Richards, a Negro actress. Another Negro actress, Maya Angelou, plays her companion, the Nurse. The historical justification for this is that the people of Colchis, the ancient name of a region at the eastern extremity of the Black Sea, were known for their dark complexion and crisp hair. Herodotus believed them to be of Egyptian origin.

Neither Medea nor her servant are allowed to enter the city. And Medea remarks: "They were afraid we would steal their chickens during the night." A little later in this scene the Nurse says to Medea: ". . . We are only two strangers in their wagon with their old mare. Two chicken thieves at which the children throw stones."

Very early in the play, the old Nurse recalls the feast days in Colchis, how the boys painted their faces red with their blood, the large yellow bonfires, and Medea's life as the daughter of a king. Some of these lines are chanted somewhat like a Negro spiritual and achieve thereby an effect that is quite in keeping with the scene.

Upon questioning the Boy that Jason has sent to tell her that he will soon be coming to see her, Medea learns that Jason plans to marry Creon's daughter. After the Boy leaves, Medea exclaims: "... Oh my newly born hatred. . . ! How soft you are, how good you smell. Oh little black girl, now you are the only thing I have left in the world to love."

When Jason at length appears, the whole history of their association, the love each felt for the other and how it changed as they began to tear at each other is developed by Anouilh in dialogue so rich in simple eloquence and emotion that it is almost too much to bear. One bears it well enough in this instance, however, because Miss Richards only intermittently is able to become, as it were, the words she speaks, to be at one with them. Hence one's attention wanders. The actress gestures and declaims, but the personality of the intensely vivid and passionate character whom she is portraying is rarely felt. When it is, Miss Richards gives us some beautiful moments.

Gene Shane played Jason in a rather controlled, careful manner,

giving the effect of a well considered sketch instead of the complete work, but the essential elements were there—that is to say, a Jason weary of the freebooting life he had lived with Medea and wanting now only peace, contentment, and the social standing he had once turned his back on.

Two key speeches which come toward the end of the scene between Medea and Jason should be quoted for the additional light they throw upon Silvera's conception of the play—the special use he makes of Anouilh's blazingly passionate drama of situation.

Jason: I loved you Medea. I loved our fierce life. I loved crime and adventure with you . . . I loved your black world, your boldness, your revolt, your connivance with horror and death, your passion for destruction. I believed with you that one should always take and fight and that everything was permitted.

Following some intervening dialogue, Medea answers him in these words:

Medea: Race of Abel, race of the just, race of the rich, how confidently you speak. It is good to have heaven on your side and the police as well, isn't it? It is good to find yourself like your father, like those who have been right since the beginning of time. It is good to be good, to be noble, to be honest. And all that given you one fine morning as if by chance, with the first weariness, the first wrinkles, the first gold. Play the game, Jason, give the signal. Say yes! *You* are preparing a splendid old age for yourself.

Jason, a white king's son, will be forgiven his crimes and allowed to settle down. Medea, a black king's daughter, will not. Why, as she asks Creon, this discrimination?

Cannot one understand, then, why a black rage takes possession of Medea and that she embraces fully the evil that is in the unconscious of everyone?

The Negroes in the audience at the Coronet understood Medea's feelings in the way Silvera intended, but not many others in the predominately white audience. In part this was due to their past conditioning, their unconscious unwillingness to accept a black Medea in what they think of as a purely Greek drama, but it was also due to the fact that this treatment of the play failed to realize with clarity the concept Silvera had in mind. I am not altogether sure whether it could be made to work fully, but I must say that it was a brave experiment as well as one that received very little appreciation on the part of reviewers for the courage required to attempt it. Worse, however, was the outright tone of hostility adopted by Margaret Harford in the review she wrote for the *Los Angeles Times*:

"The strange audience on opening night was not to be believed . . . They cackled and laughed at moments that were not exactly designed to crack up anybody. I felt as though I had wandered into a cult gathering and didn't know the ritual."

Well, one of those places the audience, those who were black, cackled and laughed was during Medea's speech to Jason on how nice it was to have heaven and the police on your side. No doubt Miss Harford understood Creon's speech, the one wherein he tells Medea to "leave us in this rational land, on the shore of this even sea which has no need for your frenzied passion and your screams." But she was mystified when the audience (i.e. the Negroes) "gave her a big hand" when Medea revealed her plans to slaughter her children, and then disappeared into the wagon to carry out her deed, "thus destroying any semblance of mood."

It may have destroyed the mood, but my thoughts went back to the hate filled chants of "Burn, Baby, Burn," that filled the air of Watts in the summer of 1964, so I was prepared when, at the end of the play, I saw the projection of the Watts Towers upon the screen upstage with fire blazing around them.

Yes, there was a gulf between the whites and the blacks in the audience at the Coronet when Bea Richards played Medea. A real tragedy of misunderstanding existed in the theater as the tragedy of Medea was being played out on stage. However, if this particular treatment of *Medea* fulfilled drama's time-honored and ritually religious function of purging the emotions of those who could dig it, Frank Silvera's valiant experiment was by no means in vain. Ronald Feinberg, who played Creon, gave the evening's best performance. The setting by Clyde Houston and lighting design by Vantile Whitfield effectively contributed to the mood of the play.

notes

in passing

It has been noted by recent congresses of architects that their professional employment pattern is bulging in the direction of regional and town planning and vice versa; regional planners are of necessity increasingly drawn into architectural undertakings. It has been noted also that architecture is trending swiftly toward *general environment controlling problems*. Recently the University of California's Department of Architecture was renamed and enlarged under the title "College of Environmental Design." Environmental design has also brought architecture into the realm of general ecology, while again (vice versa) bringing ecologists and anthropologists into the general curricula of architectural schools as well as into consultation by practicing architects. As a direct part of the same trending, the most recent world congresses of professional geographers noted an importantly increasing trend of their employment in regional and town planning activities.

With the world-around building of the next score of years doubling that of all history before us and the architects' work already deployed through modern transportation and communication, architectural offices which yesterday found themselves for the first time occupied in the design of buildings outside of their home territory are now being retained to build all around the world. The world-around architectural undertakings are trending from one building undertakings to design of whole new towns and regions. Ergo—the increasing needs for geographers, ecologists, geologists, climatologists, sociologists, international economists, et al.

Furthermore, the astronautic, defense, social welfare and health subsidies of major nations, now going increasingly into behavioral science researches, have brought discovery by behavioral scientists of the profound effect of environment upon human behavior. It has been found for instance, that 80% of the capacity to improve I.Q. has been brought into play before seven years of age and that the probability of becoming a success in higher education vs. becoming a "drop-out" is now undoubtedly attributable almost in entirety to the environmental factors of the first seven years of life. This has drawn the architects' environment controlling knowledge and designing capabilities into close couple with the behavioral scientists' research and development work. Lastly, the close couple of architecture and engineering has long been obvious. Architecture is now being joined with advanced science.

The foregoing progressive integration of professional art and science activities has inaugurated a unifying trend in *advanced architectural research* towards preoccupation with general systems theory. The importance and power of *general systems theory* as applied to contemporary large scale planning problems become ever more apparent as the adequacy of private or public client opinion, —as the design authority—dwindles and is replaced by joint private and government undertakings in which large teams of scientists and humanists now collaborate as the, computer informed, prime clients.

Ergo: *It will be appropriate to introduce a resolution by the American Institute of Planners similar to one introduced and adopted by the Resolutions Committee of the International Union of Architects at their VIII World Congress held at Paris in July, 1965, which resolved that the U.I.A. recommend to the national architectural societies, comprising the world-around official membership of the U.I.A. that the national societies in turn recommend curricula changes in their university architectural schools; these changes to be adopted by the national architectural societies' professional accrediting boards, whereby, in addition to the presently established set of architectural disciplines, an important new percentage of the architectural curriculum be devoted, firstly, to general systems theory and, secondly, to acquisition by the architectural students of ecological, geographical, behavioral and industrial economics capabilities and understandings.*

The wisdom of such a recommendation will become ever more apparent as the emerging nations and the lesser developed older nations find that their economic well-being is vitally dependent on their becoming integral participants in the world's industrial network. The emerging nations bid fair to become the major clients of the world's architects and planners.

Agriculture, fishing and craft permit non-industrialized survival in isolation only when geographical, geological and ecological circumstances are propitious. These conditions of independent survival are not characteristic of the emerging lesser developed nations whose lesser development was initially accounted by their low yield environment. Participation in industrialization cannot be exclusive due to the idiosyncrasies of the world's industrial resource distribution. For example, Ghana is rich in manganese—with no iron or coal it cannot make steel, without this developed capability manganese is just so much useless geography. To be useful the manganese will have to be exported to steel making countries. Ghana's bounty of bauxite plus the Volta Dam power will make more aluminum than Ghana can use. This too must be exported. Both will bring Ghana buying power to participate in the industrialization. Altogether, this means intimate tie-up of all countries with world industrialization.

At the present point of development of the world industrial network, no one nation is or can be wholly self-sufficient in those resources necessary to sustain the full industrial process. The evolution of industry has merged cities, states and nations into complex networks. Full industrialization ultimately requires complete integration of world resources effort and wisdom. Industrialization is successful in direct proportion to the number served. As automation reduces man's participation in industry *as a producer* it increases his importance to the total systems economic efficiency—*as a consumer*. The larger the system the more economically it functions—this portends comprehensive world network integrations with ever greater benefit for all.

R. BUCKMINSTER FULLER

AIR POLLUTION

By United States Public Health Service count there are now 7,300 communities across the country with air pollution problems. Virtually every U.S. city of 25,000 or more population is said to be contaminating its air to the point of concern. Estimates by the Committee on Pollution of the National Academy of Sciences of principal pollutants being pumped into the air annually begin at a conservative 125 million tons. The President's Science Advisory Committee adds to this six billion tons of carbon dioxide.

Private industry, directly or indirectly responsible for more than half our air pollution, has for the past several years been exhorted, cajoled and threatened with increasing stridency but little success in hopes that it would take effective steps at self-correction. Government loans are offered to industry for the purchase of equipment containing control devices and tax breaks given as further incentive to those who buy such equipment or overhaul existing machinery and plants so as to bring them to acceptable standards of contaminant emission.

A last ditch appeal to industry's self-interest was published in the prestigious *Harvard Business Review* (Sept/Oct '66) to head off federal legislation sure to follow the Washington Conference on Air Pollution called last month by the Public Health Service. The *HBR* article said, "Private enterprise has the opportunity to participate in a ready-made market that will total at least \$275 billion over the next 34 years and, at the same time, to ensure the availability of two essential resources—namely, clean air and water. Moreover, to add to the attractiveness of the opportunity... industry can gain the goodwill and whole-hearted support of the public on a scale never before enjoyed." The article then warns, "Just in case the above incentives are not sufficient inducements... (t)he public through government at all levels will increasingly demand—as it already has—that corrective action be taken."

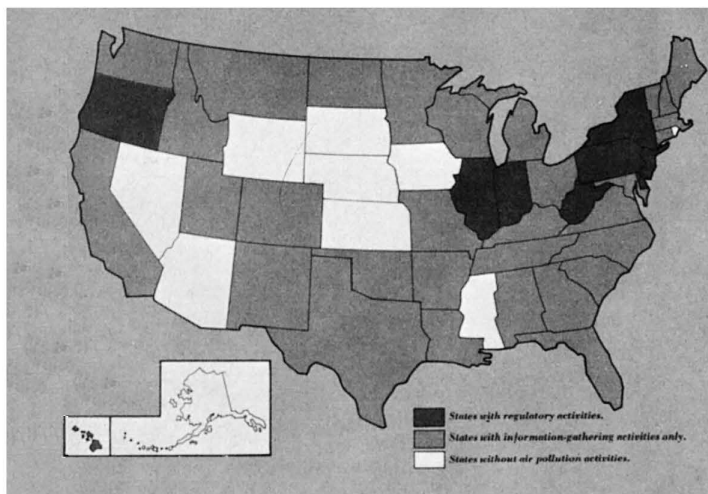
The seriousness of the situation, the urgency of the need for effective action on a continental scale is no longer a matter for dispute. A recent *New York Times* series summed it up in reporting that a 3,000-mile corridor of polluted air, the "greatest sewer on earth," has been

created in the U.S. The incidence of lung disease has increased alarmingly. Deaths from emphysema alone have quadrupled in the last 10 years, and more than seven percent—\$80 million a year—of all social security disability payments go to emphysema victims.

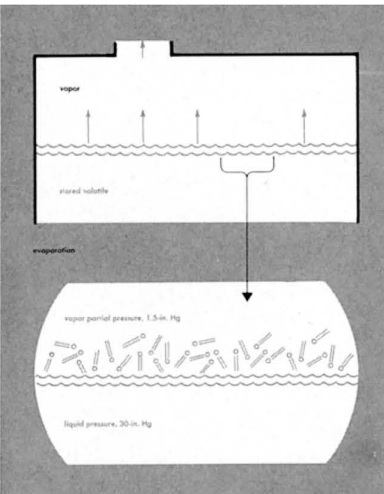
Many of the effects of air pollution are cumulative and what they will be finally on the nation's young who have been and are being exposed to a lifetime of poisoned air is horrifying to contemplate. Writing in the Oct/Nov issue of *Trial* magazine, Sen. Edmund S. Muskie (D.-Maine) states that "in our pollution of the water and the air we have made subtle changes which threaten the very balance of man's body and mind."

Briefly, principal air pollutants and their effects as reported by the Public Health Service are: **Carbon Monoxide.** At levels found in heavy traffic, carbon monoxide produces headaches, loss of visual acuity and decreased muscular coordination.

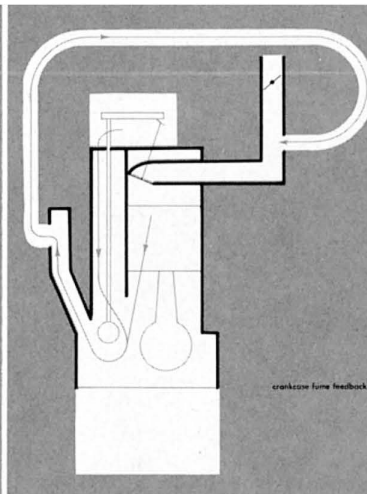
Sulfur oxides. Found wherever coal and oil are the common fuels, sulfur oxides corrode metal and stone and at concentrations frequently found in our larger cities they reduce visibility,



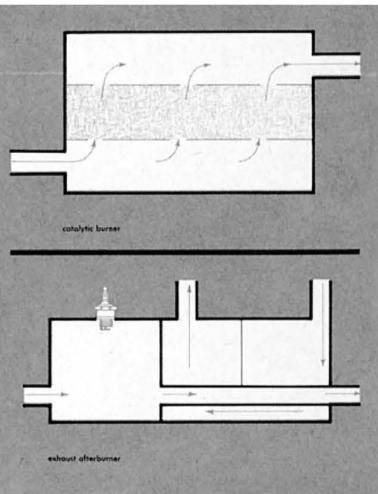
Air pollution control in the United States.



Evaporation, a major contributor.



Auto exhaust controls: (Left) crankcase feedback recycles exhaust; (Right top and bottom) unsatisfactory catalytic burner and after burner devices.



HOW TO GET RID OF SMOG

by Frank M. Stead

Mr. Stead is Chief, Division of Environmental Sanitation, California State Department of Public Health. His article is reprinted from *Cry California*, published by *California Tomorrow*, Sacramento.

To get a working handhold on the smog problem in California today, it is necessary to glance back over the 30 or more years in which it has been developing.

In the 1930's, Los Angeles County, with a population of a little over two million, was aware that her matchless climate was blemished by air pollution. But air pollution in the 1930's bore little resemblance to today's. No one had heard of hydrocarbons or smog, and the petroleum refining industry, distinctly second in importance to the motion picture industry, was blamed only for producing noxious odors. In the Long Beach area, residents frequently complained about the odorous sulfurous gases released at night from certain refinery units and irritant gases which resulted from the burning or dumping of acid sludge. At this time, long before the entrance of government into the field of air pollution control, the oil industry, itself, employed a technical inspector who was charged with the duty of keeping a 24-hour

surveillance of the refineries and vested him with authority to enter refinery premises and halt any operation producing an odor nuisance. Fish canneries and reduction plants at Terminal Island, rendering plants at Bandini, as well as hog ranches and sewer farms, all felt the brunt of public resentment which led local health departments to bring action against the offenders under nuisance statutes.

By far the most spectacular source of smoke during this period stemmed from the practice of orchard heating. The great citrus belt of Southern California, sweeping through the San Gabriel and Pomona Valleys of Los Angeles County, constituted the major bulwark of the economic life of the communities in that area. Several times each year frost threatened not only the crops, but on colder nights, the trees themselves.

The smudge pot was then the most respectable means of raising the temperatures of the air in the orchard the necessary few degrees, but if that did not prove adequate, the ranchers burned old rubber tires and crude oil. Smoke was then considered as important as heat. After a night of heavy firing, a pall of soot which literally blacked out the sun enveloped the valley towns. It is interesting to reflect back upon the almost unlimited tolerance of the people of the valley towns of that day to this deliberately

imposed, massive defilement of air. Their tolerance stemmed from their conviction that the pollution was unavoidably necessary and that at worst it would last no more than a day or two. Two other sources of air pollution which plagued Los Angeles County 30 years ago were forest fires and dust storms. Devastating fires would occasionally ravage the forest slopes of the Sierra Madre Range. More frequently, the dreaded Santa Ana dust storms from the deserts of San Bernardino and Riverside Counties filled the air of San Gabriel Valley, giving it the appearance of present-day smog.

Ten years later, in the early 1940's, significant changes had taken place in the air pollution situation. Industries which manufactured or used huge quantities of volatile chemicals were moving into that area. Los Angeles County had become a major aircraft manufacturing center. A butadiene plant was built in the heart of Los Angeles. The total capacity of Los Angeles County's oil refineries had increased only by a few percent, but the refining process had undergone a profound change, with cracked gasoline, produced by catalytic processes, augmenting the previous straight-run thermally-cracked gasolines. This resulted in a motor fuel with markedly different characteristics. The number of motor vehicles had increased only about 50 percent over a 10-year period, but the com-

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injure vegetation and contribute to the incidence of respiratory disease and to premature death. **Nitrogen oxides.** Besides their contribution to photochemical smog (described below) nitrogen oxides are responsible for the filthy brown haze that not only destroys the view but is an air traffic hazard. They are formed in the combustion of all types of fuels and in high concentrations are believed to contribute to respiratory disease.

Hydrocarbons. Discharged chiefly by automobiles, hydrocarbons are a large class of chemicals which, in particle form, have produced cancer in laboratory animals and play a major part in the formation of photochemical smog.

Photochemical smog. This is a complex mixture of gases and particles created by the action of sunlight on raw nitrogen oxides and hydrocarbons, discharged into the air principally by the automobile. Smog, observed in every region of the U.S., can severely damage crops and trees, deteriorate rubber and other materials, reduce visibility, cause eye and throat irritation and, it is believed, reduce resistance to respiratory disease.

Particulate matter. This type of pollutant, (e.g., fly ash, dust) acts as a catalyst in the forma-

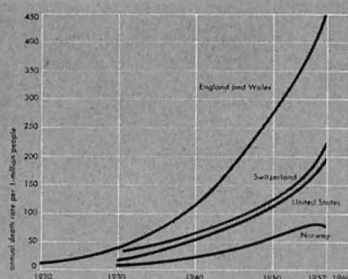
tion of other pollutants and can carry into the lungs irritant gases which might otherwise have been dissipated in the upper respiratory tract. Some particles contain poisons whose effects on man are gradual and cumulative.

Private enterprise, though the largest contributor to the problems, is far from being solely responsible. It has taken a decade or more of public apathy (backed up by a century of unrestrained fertility and medical and industrial miracles) to achieve our polluted air, just now alarming an effective and vocal segment of the population. And with rare exceptions, local and state governments have reflected the public's apathy: of the 7,300 communities afflicted with varying degrees of air pollution, only 130 are reported by the PHS as having control programs of even the most modest consequence. At the Washington conference on air pollution, John W. Gardner, secretary of Health, Education and Welfare, said, "Most states programs lack adequate authority and resources. Only a half dozen have more than minimal programs. . . . Regional programs are virtually nonexistent. . . . Our choices are narrow," he said. "We can remain indoors and live like moles for an

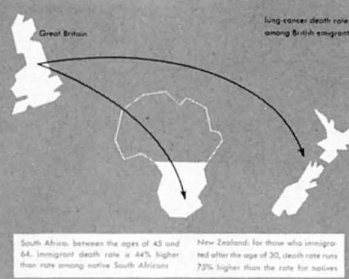
unspecified number of days each year. We can issue gas masks to a large segment of the population. We can live in domed cities. Or we can take action to stop fouling the air we breathe."

The example of Los Angeles, where air pollution became a public and political issue more than 20 years ago, offers the clearest kind of proof that while local programs may be effective in slowing the advance of pollution they are insufficient to halt that advance, let alone eliminate air pollution. Despite a program which has been cited by the PHS as a model for other communities to follow, Los Angeles continues to pour pollutants into the air at the rate of more than 14,000 tons per day. In the late '40s and early '50s, smog required favorable meteorological conditions, an inversion layer, before appearing in the kind of concentration which made the city infamous. Now the pall is ever present, drifting back and forth across the 3-county basin and often reaching out to cover Catalina Island 26 miles off shore.

After a number of false starts, research established that Los Angeles' smog contained two distinct types of pollutants roughly divisible into those emitted by stationary sources and

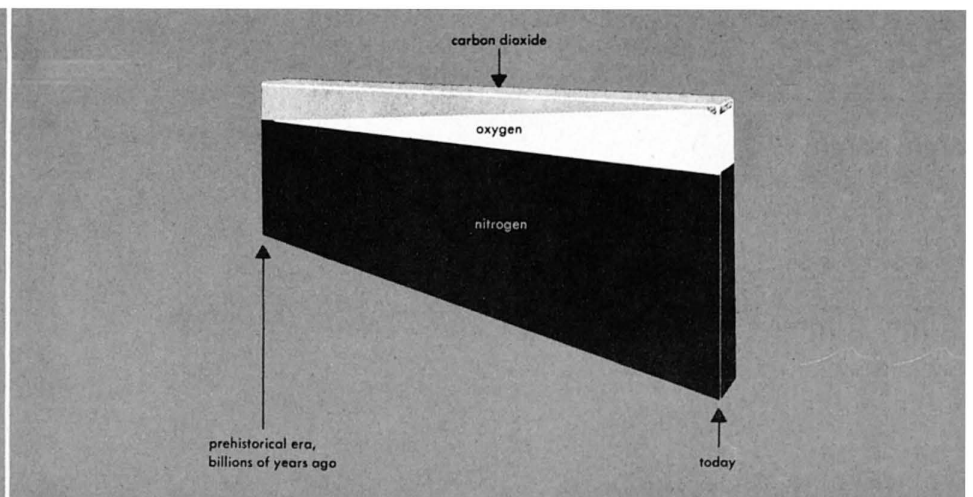


Real cause for steep increase in respiratory-cancer deaths is yet unknown. Many believe, and for sound reason, the answer may lie in our polluted air—including that portion self-induced by tobacco smoke.



South Africa: between the ages of 45 and 64, immigrant death rate is 44% higher than rate among native South Africans. New Zealand: for those who immigrated after the age of 30, death rate runs 75% higher than the rate for natives.

Keeping Britain's high death rate from respiratory cancer in mind, above analysis sums up long-term effects when people emigrated from their highly polluted cities to cleaner areas of Africa, New Zealand.



Carbon Dioxide content of atmosphere is increasing, heading the world towards pre-life condition.

Death rate of immigrants to New Zealand from England (after age 30) runs 75% higher than natives to South Africa which is 44% higher.

pression ratio of the internal combustion had gone up (with resultant increased temperature of combustion), and the motor vehicle itself had become a low-grade gasoline-cracking plant. The number of diesel trucks on the highways, and the volume of fuel oil and natural gas burned in homes, public buildings, and industry increased greatly over the 1930s.

The effects of air pollution had, by now undergone considerable change. The major sources of odor prevalent in 1930 had been largely jacketed; refineries were collecting their fumes and burning them; rendering plants were oxidizing their odorous vapors with combustion chlorine, or chlorine dioxide gas, or scrubbing them with liquids containing a neutralizing agent. Acid sludge was being shipped by rail to a plant in the San Francisco Bay for conversion into ammonium sulfate. Orchard heating had been rendered relatively smokeless, partly as a result of improved heating design, and partly as a result of the use of butane heaters or wind machines in many orchards. (The idea of the necessity for smoke itself had been proved false.) Sewer farms were a thing of the past.

These changes in the sources of air pollution began to make dramatic changes in the symptoms of air pollution. Odors were diminished

but eye irritation began, and the word "smog" came into our vocabulary. People began to notice that the transparency of the air on which they had prided themselves was gone even on many days when there were no dust storms, forest fires, or orchard heating. They suspected that something besides natural haze was the cause.

In characteristic fashion, they demanded that something be done—although we were then at war—and the governing body of Los Angeles County named the county health officer as "air pollution officer." The Los Angeles City Council also instructed its health department to get into action. The biggest detective story of the century was begun.

Starting with the clue of eye irritation, the first smog fighters began to sample the air for known gaseous irritants encountered in industry—acrolein, other aldehydes, sulfur dioxide, sulfur trioxide, and nitrogen dioxide. They were fortified by 25 years of experience in coping with these irritant gases in industry. Threshold limits, called "maximum allowable concentration," had been established for each. It was possible to find all of these substances in the air of Los Angeles County, but they were seldom present at a concentration of as much as one-tenth that which industrial experience showed to be the threshold of concern. Further-

more, when one added up all the known quantities of these compounds discharged into the air and then divided by the volume of air in the basin, even on days of low ceiling, it was evident that the industrial thresholds could not possibly be reached in the total air mass.

Consequently, there began a search for an unknown culprit, a search which still continues today. It became evident that air volume available for diluting wastes was a key factor, and meteorologists were brought into the investigation. The concept remained, however, that the guilty substance was by design, or accident, being introduced into the air at some one place. The problem consisted of identifying it, locating its source, and "shutting it off."

But as time moved inexorably onward, the situation worsened, and the people, with rising impatience and uneasiness, demanded action. And action they got. First, local governing bodies enacted local ordinances; then the State Legislature, now freed from the restraining effect of the war, enacted a statute making air pollution, in effect, a crime. Full use of the police power was authorized to abate the discharge of virtually any foreign substance into the air. Glaringly absent was any significant provision for research. This was an emergency and there was no time for the slow, laborious,

(Continued on page 30)

those produced by the automobile. The Los Angeles County Air Pollution Control District (APCD) was formed and given strong police powers which made possible control of emissions from stationary sources but which for all practical purposes left control of motor vehicle exhaust to the state. The result, as reported by the APCD in a plea to the State Assembly for effective exhaust control device legislation, is that where 10 or 12 years ago the ratio of pollutant emission between stationary and automobile sources was 40%-60%, it is now 10%-90% in favor of the car. In the report to the Assembly Committee on Transportation, county air pollution control officer Louis J. Fuller said:

"Today, pollution from rubbish disposal virtually has been eliminated, pollution from industry has been reduced almost to the practicable minimum, but pollution from motor vehicles has been controlled only slightly. In the meantime, the number of motor vehicles has more than doubled, and there is twice as much pollution from this source as when the control program began.

"At present, control measures now in effect are

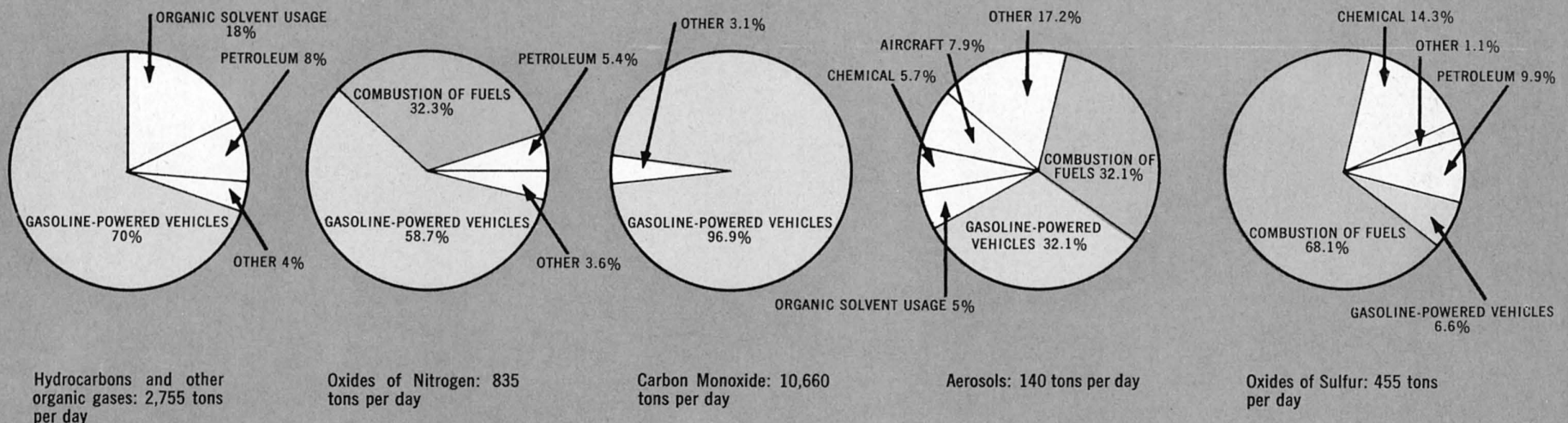
keeping a total of 5,350 tons of pollution out of the air of Los Angeles County every day." Of that total, Fuller said, 5,000 tons were eliminated from stationary sources and 350 tons "are being controlled by the only automotive control measure yet effective, the crankcase blowby device . . . Still uncontrolled and being emitted are pollutants totaling 14,225 tons per day. Of this, 1,375 tons come from all stationary sources, including not only industry but all combustion processes such as domestic heating and cooking as well. The other 12,850 tons are being emitted from motor vehicles, meaning for the most part from the exhaust pipes of gasoline-powered automobiles."

The federal government, meanwhile, is preparing to abandon the subsidy-carrot approach for the stick, to be applied not only to industry but to local and state governments as well. Secretary Gardner was quoted in *Time* magazine as warning that unless local and state governments shape up they will become "mere branch offices of one all-dominating national government." A similar warning was issued recently by Sen. Muskie. "We want to save local autonomy from what could be its own destruction. If state and local governments do not take

effective steps to meet the urban crisis, for example, someone will have to do the job. And that someone is likely to be the Federal Government."

It is now universally agreed that the 90 million motor vehicles clogging the nation's roads are the most numerous and widespread contributors to air pollution. It is also agreed, though not yet universally, that exhaust control devices so far developed by Detroit are not going to be sufficient to clean our urban air. In California, for example, all new automobiles since the beginning of 1966 have been required to have exhaust control devices limiting emissions of exhaust hydrocarbons (but not carbon monoxide and other pollutants making up 78% of a car's exhaust) to not more than 275 parts per million; the advance of air pollution has not been halted. By 1970, California requires a further reduction to no more than 180 exhaust hydrocarbon PPM and lagging federal standards of 275 PPM will go into effect nationally with 1968 models. APCD officer Fuller has said, however, that "Even if the federal government reduced its standard to conform to that of California, such standard will not

Percentage of Contribution of Contaminants from Major Sources (1965 APCD figures)



LAWSUIT AS SOCIAL ACTION?

by Paul D. Rheingold,
Professor of Law, Rutgers University
Excerpted from *Trial* magazine

There are many legal paths to the goal of the elimination of air pollution in this country. One method—widely overlooked by the bar—is the bringing of a civil action against the polluters for lung damage or other injury caused by the inhalation of the polluting substance.

Medicine today recognizes a wide range of diseases which are attributable to air pollution. A number of common respiratory diseases, it is agreed, are caused by or aggravated by pollutants in the air, including bronchitis, asthma, and emphysema, the last of which is coming to be recognized today as "the silent crippler." Pollutants can also aggravate pre-existing respiratory infections of a bacterial or viral nature, including the common cold.

12 Lung cancer is attributable to a number of common air pollutants, including benzpyrene. There is evidence that secondary to pulmonary damage there may be heart injury attributable to air pollution, including *cor pulmonale* and right ventricle failure.

It is worth a brief analysis of the common types of pollutants found in the air today, since their

presence suggests who the potential defendants are in lung-air pollution cases. The automobile spews off carbon monoxide, sulfur dioxide, and partially unconsumed fuels. These often may mix with the sunlight and water in the air to form dangerous ketones, ozone, and other substances that make up the "Los Angeles" type smog. A jet plane on take-off puts out smog that is equivalent of some 6,850 cars, it has been estimated.

Power companies, dumps, apartment house incinerators and factories pollute the atmosphere every year with tons of chemicals which can be inhaled into the tiny passageways of the lungs and do damage, including the various oxides of nitrogen and sulfur, and silica particles. In addition, some factories emit various types of unusual chemicals, such as fluorides or beryllium, according to the work being carried on.

A number of well-recognized causes of action exist today for particular types of air pollution, especially where the source of the contaminants is close to the person injured and of a readily identifiable type. These may be mentioned briefly, to be followed by discussion of newer ideas of civil air pollution suits. Suits brought by workers have, for example, been common in the past for lung damage caused under occupational disease statutes, under workmen's

compensation or FELA liability.

The traditional nuisance action has been used frequently to either abate, or recover damages for personal injury due to the contact with various noxious fumes, vapors, gases or smoke. The nuisance action, however, tends to be restricted to actions by or against the users of land. This would also be true of a trespass action, which is in common use for the invasion of property rights through the air.

A number of air pollution damage suits have been bottomed upon ultra-hazardous liability theories, where a socially useful activity carries with it a risk of serious harm that cannot be eliminated. Even where this theory of liability is accepted, however, it tends to be limited to the direct contact situation where a specific pollutant comes in contact with a person in near proximity.

Negligence, where it can be made out, has been a successful theory in many pollution cases. Products liability suits have involved lung damage due to defective products. Store owners, landlords, and other occupiers have been held liable for lung damage to invitees. And bus companies have been held liable for carbon monoxide poisoning of passengers who sat in the rear of the bus.

But what of an urban dweller, in his fifties, who

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achieve acceptable air quality in Los Angeles—even by 1980.” He pointed out that neither the state nor federal programs require exhaust controls on used cars; neither have losses by evaporation from gas tanks nor emissions of oxides of nitrogen been touched.

In an accompanying article, Frank M. Stead, Chief of the California Department of Public Health’s Division of Environmental Sanitation, says that the solution can be nothing less than the elimination of the gasoline-powered motor vehicle in California. Dr. John T. Middleton, new director of the Air Pollution Division of the U.S. Public Health Service, writes of the article, “Frank Stead has stated the smog issue clearly, and his conclusions are inescapable. California can no longer tolerate the destruction of its air resource by the gasoline-powered motor vehicle. The importance of motor vehicle and petroleum industries to the economy and wealth of California requires that their manufacturing and production ingenuity be exploited for the development of propulsion systems which do not pollute the air. The issue is not so much removing the motor vehicle but rather having a power plant which produces no pollutants, a clean propulsion system for the motor

vehicle. Therefore, the state must stipulate emission standards or requirements which prohibit the sale and use of gasoline-powered vehicles as we know them today.”

Buttressing these opinions is the APCD report that control devices now being developed to meet 1970 standards are currently testing far below requirements. Yet the Senate’s Special Subcommittee on Air and Water Pollution reported in 1964, “The contribution of the automobile to the national air pollution problem can be reduced. The technological skills and equipment needed to do the job have passed the research stage. The subcommittee can see no valid reason to delay further the adoption of control measures as an integral part of every new automobile manufactured in the United States. If the industry can as it does, make major changes in the appearance of automobiles almost annually, and if it can, as it does, announce advances in performance with impressive regularity, it certainly can also incorporate promptly the adjustments and equipment necessary to reduce exhaust emissions.”

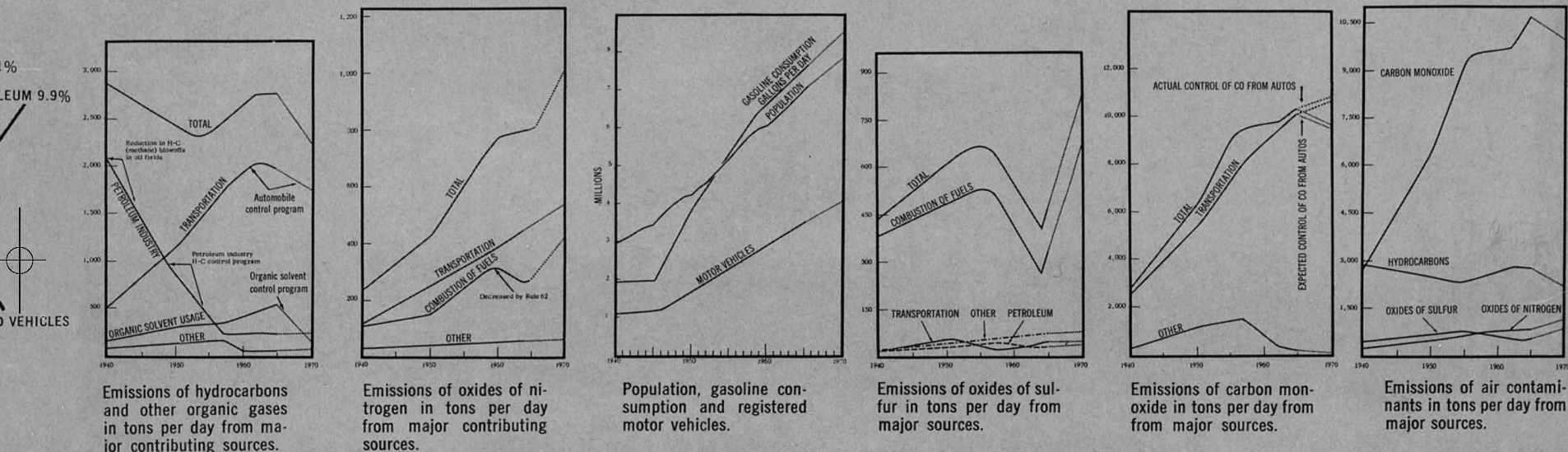
Thus an impasse is reached which can only be surmounted by the *combined efforts* of govern-

ment, industry and the public. The need is there: meteorologist Morris Neiburger of UCLA has reportedly warned that if carbon monoxide and other automobile emissions are not discontinued, “the world’s atmosphere will grow more and more polluted until, a century from now, it will be too poisonous to allow human life. . . .” And the amount of carbon dioxide now being added to the earth’s atmosphere, which in the beginning it is believed consisted almost solely of nitrogen and carbon dioxide, will have increased 25% by the year 2000, putting us on a collision course with conditions prior to the existence of life on earth.

Zoologists have long been aware that man is the most destructive natural force on earth; pestilence, plague, famine, earthquake, or flood—none is in the same league with man. “Almost everything we do,” says Ernst Mayr, director of the Harvard Museum of Comparative Zoology, “is harmful to the species and works against its survival.” If his meaning is not sufficiently clear, he says further “that of all forms of life which once existed on earth, 99% are now extinct.”

D.T.

Los Angeles County Trends and Averages (1965 APCD figures)



GOVERNMENT ACTION

by Edmund S. Muskie
U.S. Senator (D.-Maine)

Excerpted from *Trial* magazine

Three and one half years ago, the late Senator Pat McNamara (D-Mich.), then Chairman of the Senate Committee on Public Works, created the Special Subcommittee on Air and Water Pollution.

The Subcommittee developed two major legislative proposals that year. One, S. 649, passed the Senate but died in the House of Representatives. The second bill was the Clean Air Act of 1963, which passed both Houses without much fanfare. By 1965 the climate had improved, but it took six months of negotiations to resolve differences between the House and Senate on water pollution policy and to produce the Water Quality Act of 1965. The Congress also enacted amendments to the Clean Air Act, concentrating on the problems of automotive exhaust and solid waste disposal.

Today, anti-pollution legislation is accepted as one of the most important items on the agenda of domestic public policy. On July 12, 1966, the Senate passed, 80-0, further amendments to the Clean Air Act substantially increasing the federal investment in air pollution control. The

next day, by a vote of 90-0, it passed a \$6.2 billion Water Pollution Control Bill—probably one of the largest peacetime money authorizations ever given unanimous support by the Senate.

Why this willingness to invest large sums of money in a national program to improve the quality of our air and water?

The problems of pollution are not new. They have plagued man from the earliest civilizations. Man cannot live without creating wastes, and those wastes represent a potential threat to his health and to life itself.

But in recent years the threat has been magnified and has become, in effect, a new problem. Our population has grown to a point where our water needs are almost greater than the available supply. At the same time we have succeeded in creating chemical and radioactive wastes whose characteristics have almost defied our efforts to clean them up.

Our increasing energy needs—for manufacturing, heating and cooling, and transportation—have led us to a dangerous point in polluting the air we need to sustain life.

And in our pollution of the water and the air we have made subtle changes which threaten the very balance of man’s body and mind.

Contamination of the environment is a social

problem. Up to a point we can reduce the problem by individual action—by restraining the impulse to throw litter on the pavement or in the park, by keeping our cars and furnaces in good operating order, or by observing sound conservation practices on our own property. But in a society as complex as ours, where practically everything we do to maintain life and to produce goods and services results in contamination of the environment, public decisions and public actions are needed to improve the environment.

There is an interrelationship between air, water, and soil pollution. But the problems of each are sufficiently unique to require different scientific and institutional control techniques.

The location, geographic boundaries, condition, source, and direction of the flow of water can be identified, measured, and—within certain limitations—predicted. Atmospheric conditions are far less subject to precise measurement of accurate prediction. Polluted water can be collected, controlled, and carried considerable distances for treatment or disposal. Polluted air must be prevented at the source of emission. . .

National air pollution control legislation was initiated in 1955. Since that date it has grown from a research and technical assistance program to a support program for state and local

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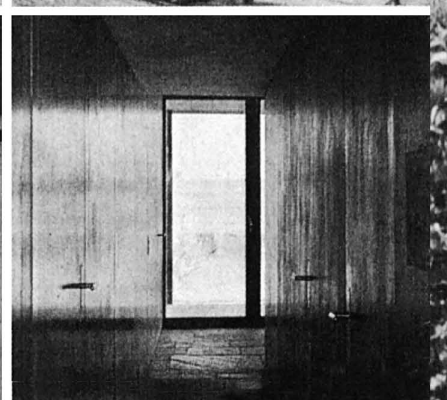
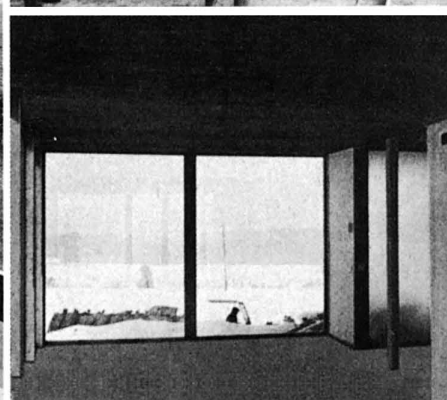
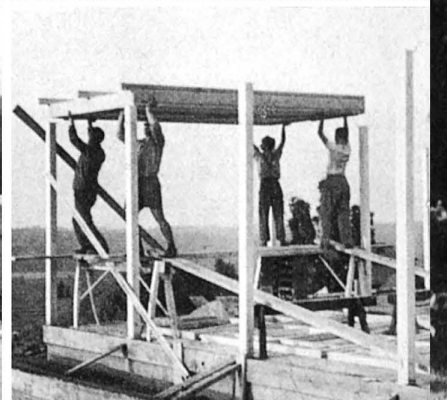
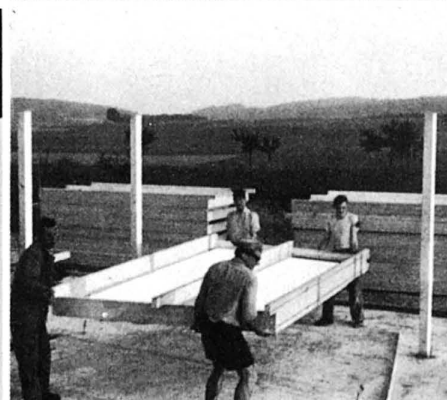
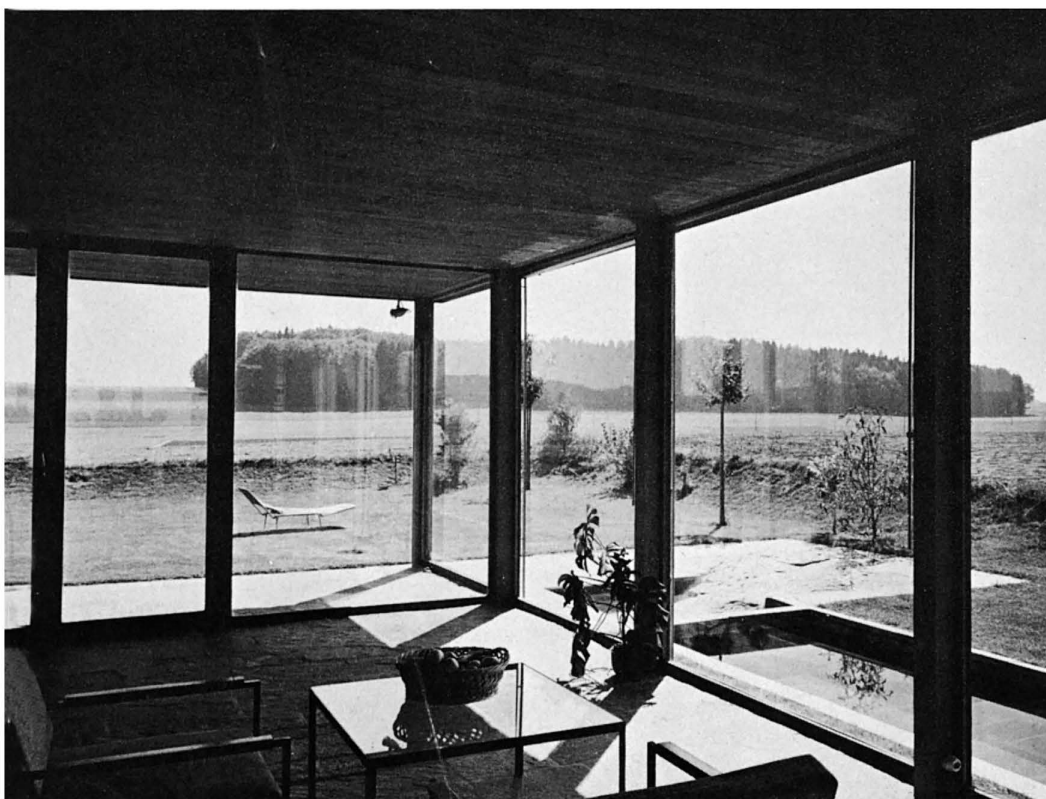
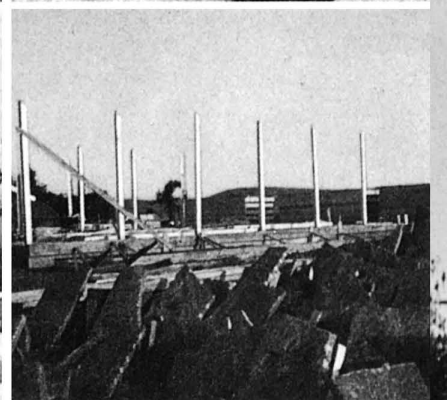
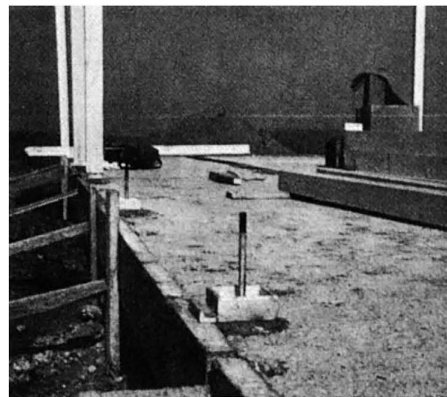
2/3. In the supports is a continuous bolt with a perforation having an opposite thread. The support, or the bolt, is screwed into the foot unit which is rounded and set in putty.

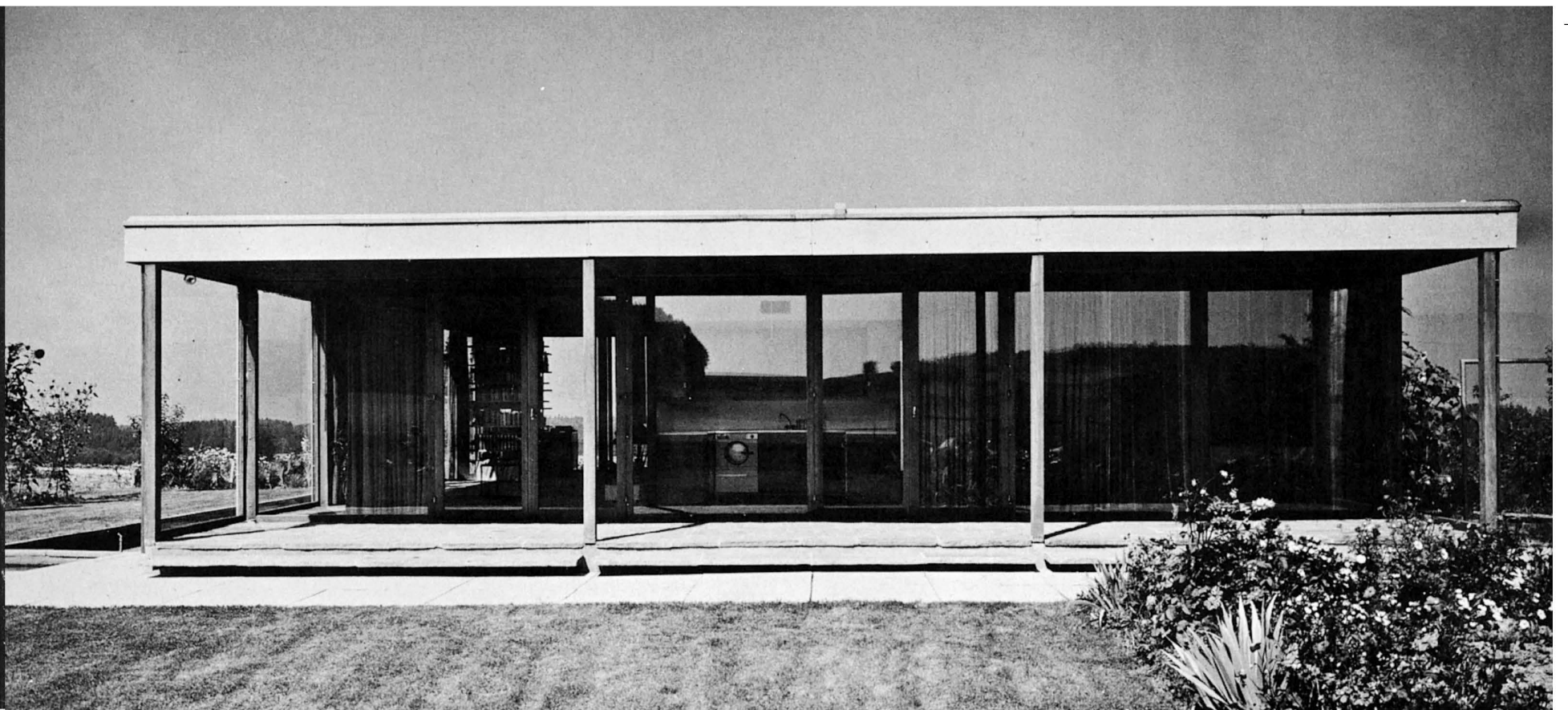
4. An additional adjustment of the supports is no longer needed. The supports stand at intervals of 6' in one direction and 12' in the other. 5/6. The roof elements are 6' and 12' long; heat and weather insulation are built in.

7. Living room and windows on the north side. To the right is the entrance court, which was pushed out into the module axis to dispense with additional canopy and yet have a covered entrance.

8. Corridor between the bedrooms and the bathroom facilities. The floor of split granite runs through beneath the cupboards, which, along with doors, are set freely between supports so they can be rearranged at will.

Photos by Bernard Moosbrugger





FRANZ FUEG, ARCHITECT
Associate Architect, Gerard Staub

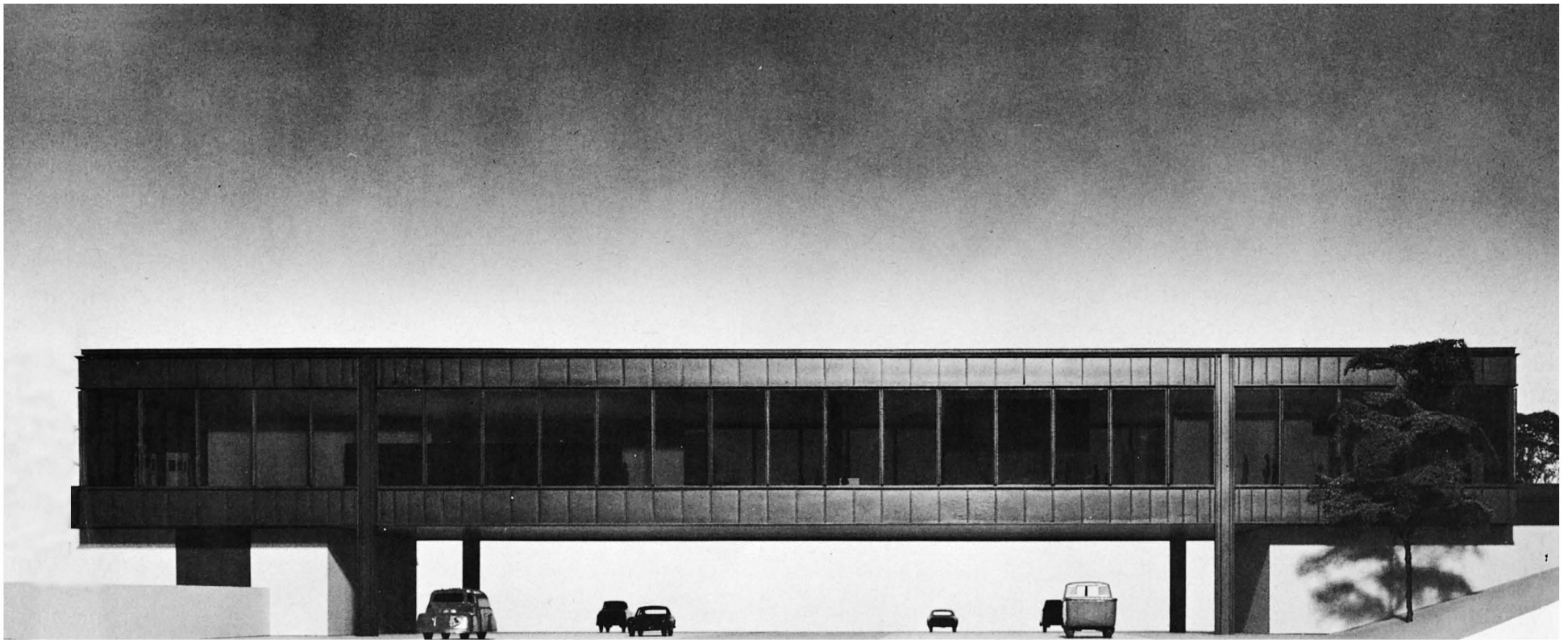
This house in a suburb of Solothurn, Germany, was built by the owners with only the help of friends. The square plan—approximately 40' by 40'—is the result of the restricted budget of the owners, both teachers with two children.

Glazed and movable partitions, in curtain form, permit the family to adapt the house to variations of weather and furniture arrangements. The owners can themselves take down interior

partitions, cupboard spaces and doors and rearrange them at will. The house can also be extended in the event there are additional children.

The supporting structure with the wind reinforcement and the deck elements were prepared in the shop by the owner with the help of a carpenter's apprentice and were set up on the site with the assistance of two pupils.

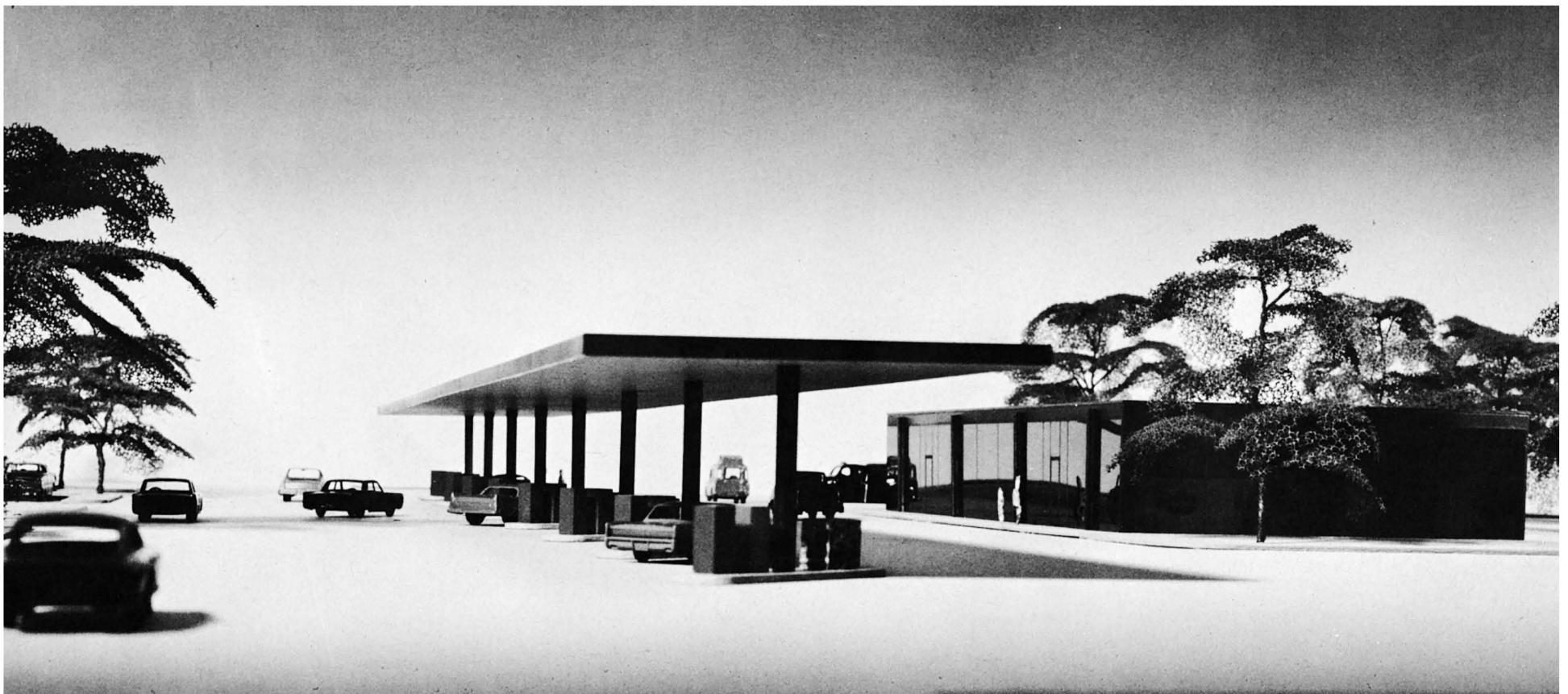
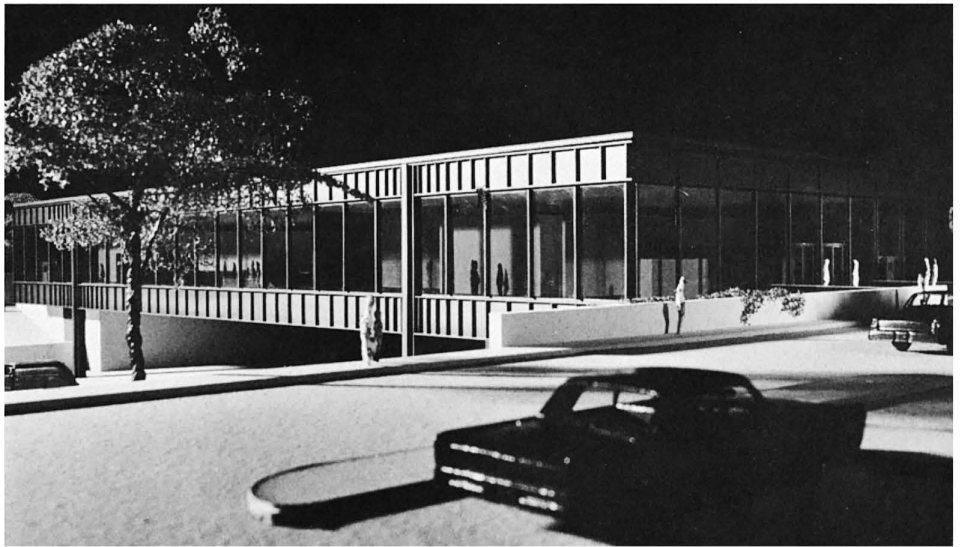




HIGHWAY RESTAURANT AND SERVICE STATION BY DAVID HAID, ARCHITECT



Photos by Hedrich-Blessing



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This project for a highway service area now under construction for the Illinois State Toll Highway Commission consists of a restaurant building spanning 225' over the highway and a service station on either side.

The site was developed to allow easy and safe access to and from the highway. Passenger car and truck traffic has been separated within the site and separate parking facilities for each provided. Extensive landscaping in the character of the adjacent woods serves as a visual separation of the various site functions.

Fluctuating volume and types of service in the restaurant building required a flexible space to allow various combinations of table, cafeteria or snack bar needs. Silk drapes in the main space will define or vary the "in service" areas to meet changing needs. Mechanical equipment and storage facilities are in the basements under each end of the building.

The structure of the restaurant building is a plate girder and truss system of weathering structural steel supported on four columns and enclosed in glass with a clear span of 225' by 90'. Entries are at either end across granite surfaced bridges; the superstructure is structurally independent of the basements but connected in a manner that will allow movement between them. The cruciform shaped columns are continuous built-up sections from the top of the caissons to the roof and carry the main floor and roof girders. The main floor plate girders are 6' deep and the roof girders are 5½' deep. The girders have a clear span of 135' over the roadway and a cantilever of 45' at each end beyond the columns. Trusses, 9' on center, span 90' between the girders. This truss space at floor and roof allows for the distribution of all required ductwork and piping. Vertical wide flange mullions, also 9' on center, between the floor and roof girders carry the window units and work as hangers to equalize loads between floor and roof girders. Three-eighths-inch bronze tinted plate glass is glazed in specially extruded weathering steel window frame sections. The floor and roof decks are poured in place concrete slabs on permanent metal forms.

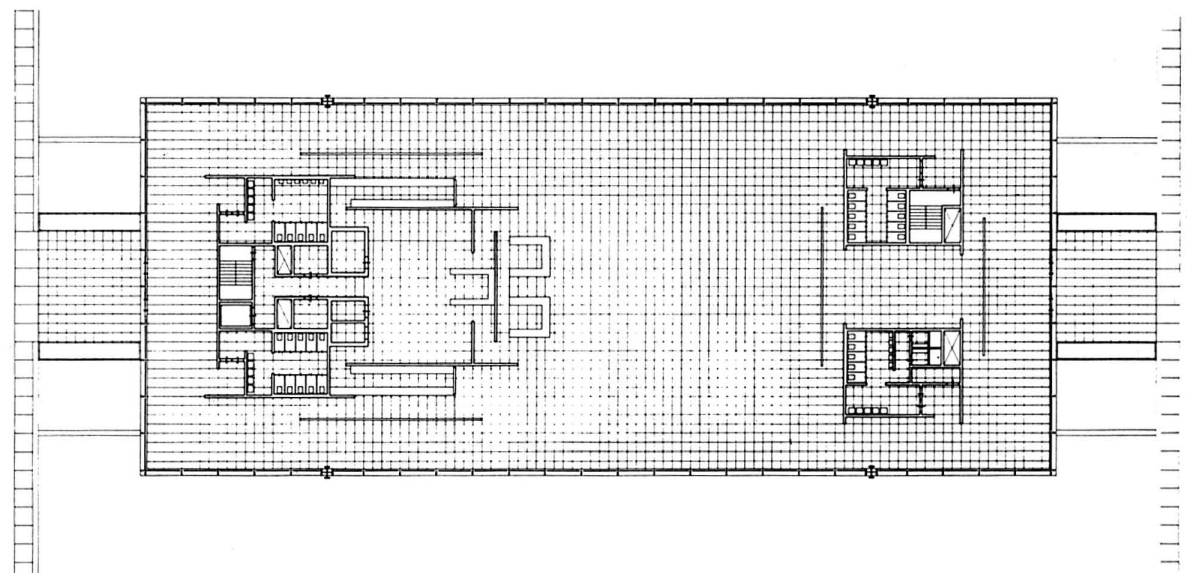
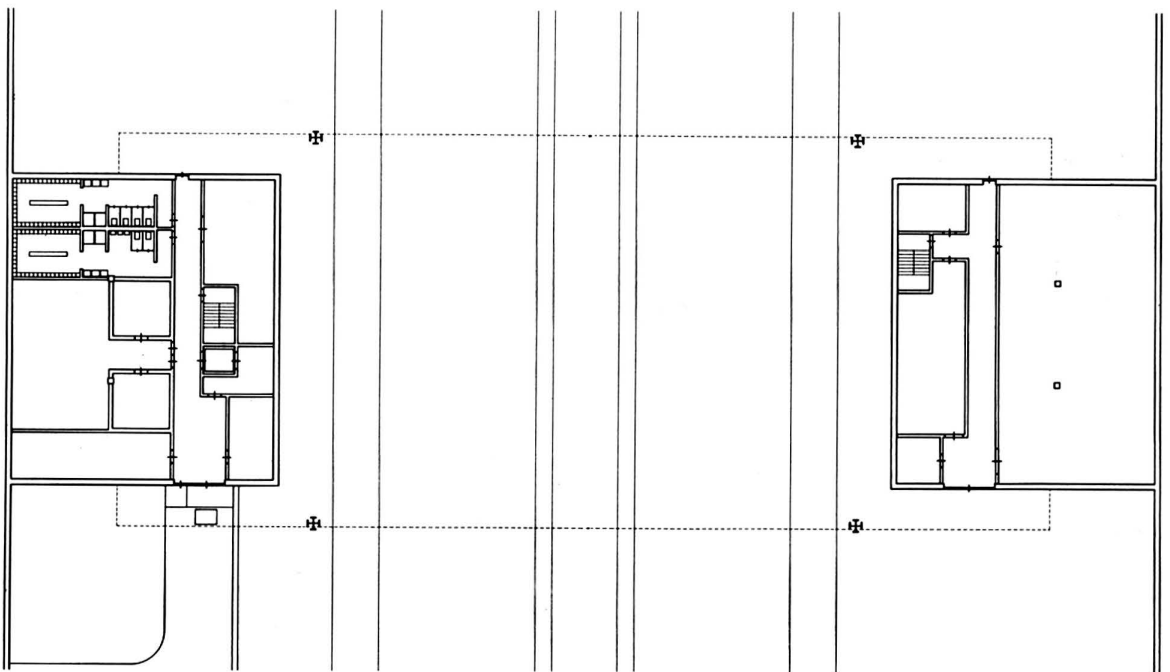
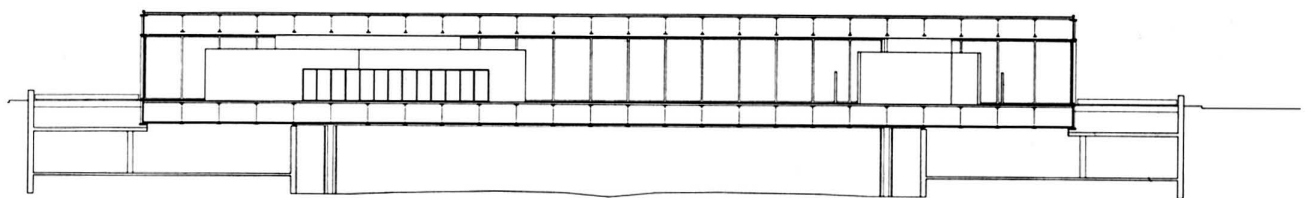
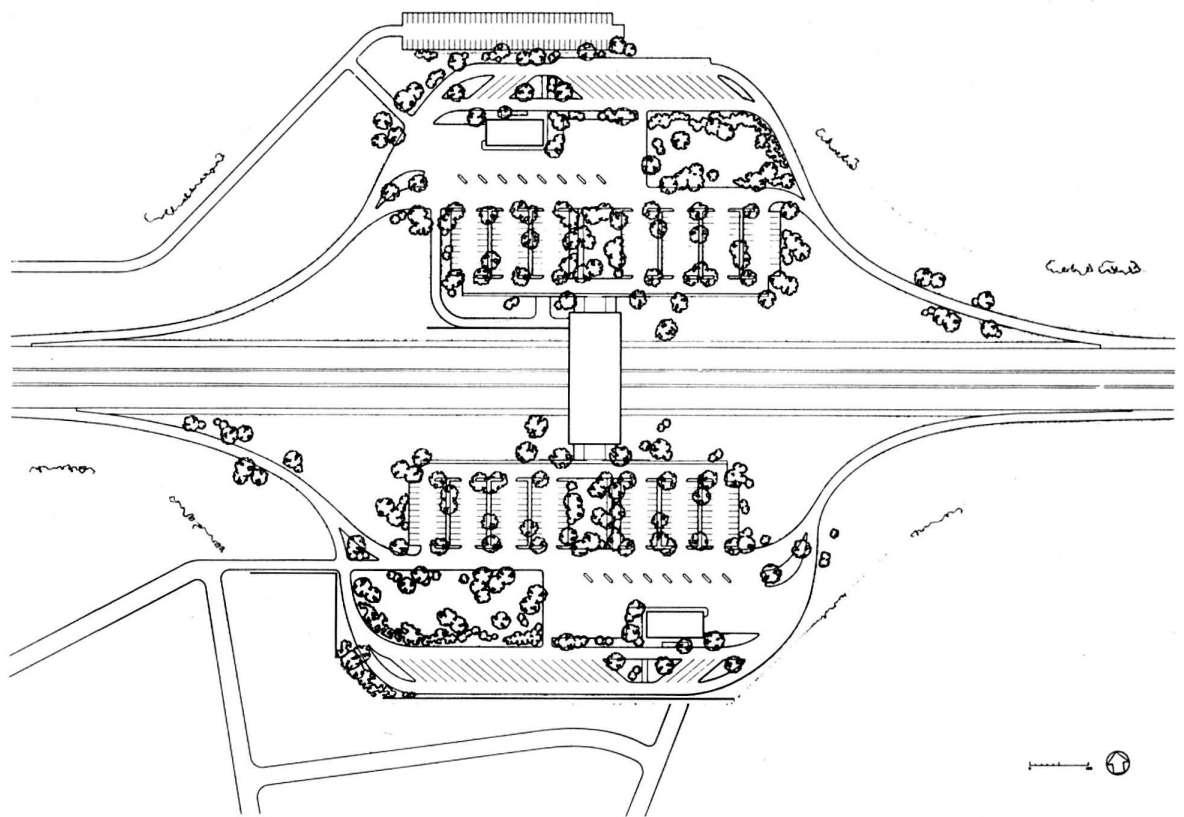
The interior of the exposed structural steel members will be painted and other interior finishes include a terrazzo floor, bottle green laminated glass partitions, white plaster on the core walls and silk drapes in the restaurant areas.

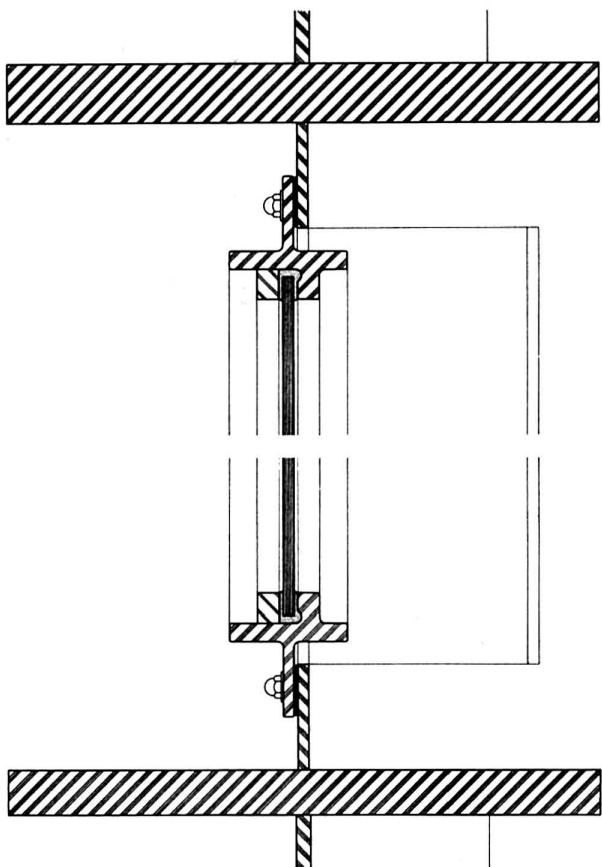
An acoustic tile ceiling—height on main floor is 16'—with incandescent combination air-light fixtures is suspended from the roof deck below the roof trusses.

The service stations are located between the truck and automobile parking areas. These are steel structures 99' by 45'. A central storage and rest room core of buff brick divides the buildings into two areas, one for auto servicing, the other for sales, travel information and office.

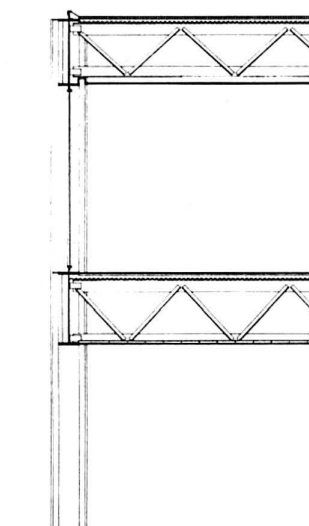
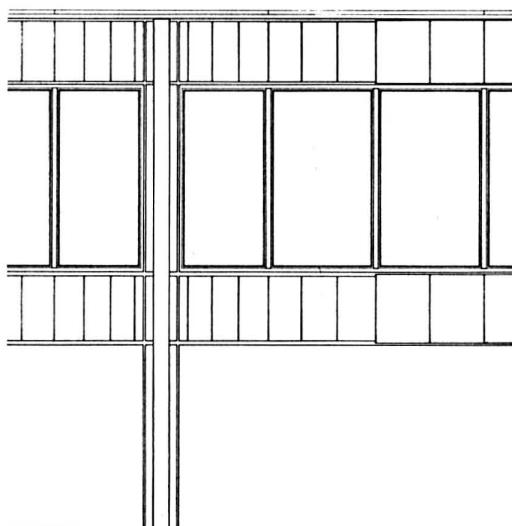
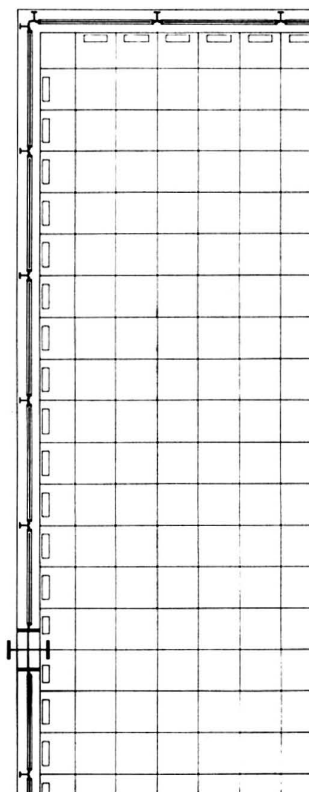
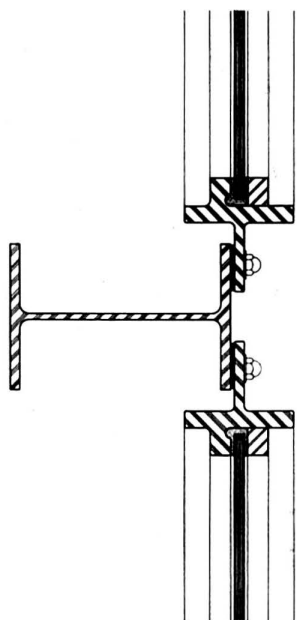
Wide flange columns 27' on center support a roof structure consisting of channel fascias with wide flange beams 9' on center. The roof deck is exposed precast concrete channel slabs. Window frames of cold rolled steel bar stock are set between the structural columns and glazed with bronze tinted plate glass.

The roofed-over pump island areas are steel frame construction with an exposed precast concrete channel slab deck. A single line of steel columns 34' on center support these roofs. Structural engineers were Wiesinger-Holland, mechanical engineers Wallace-Migdal.



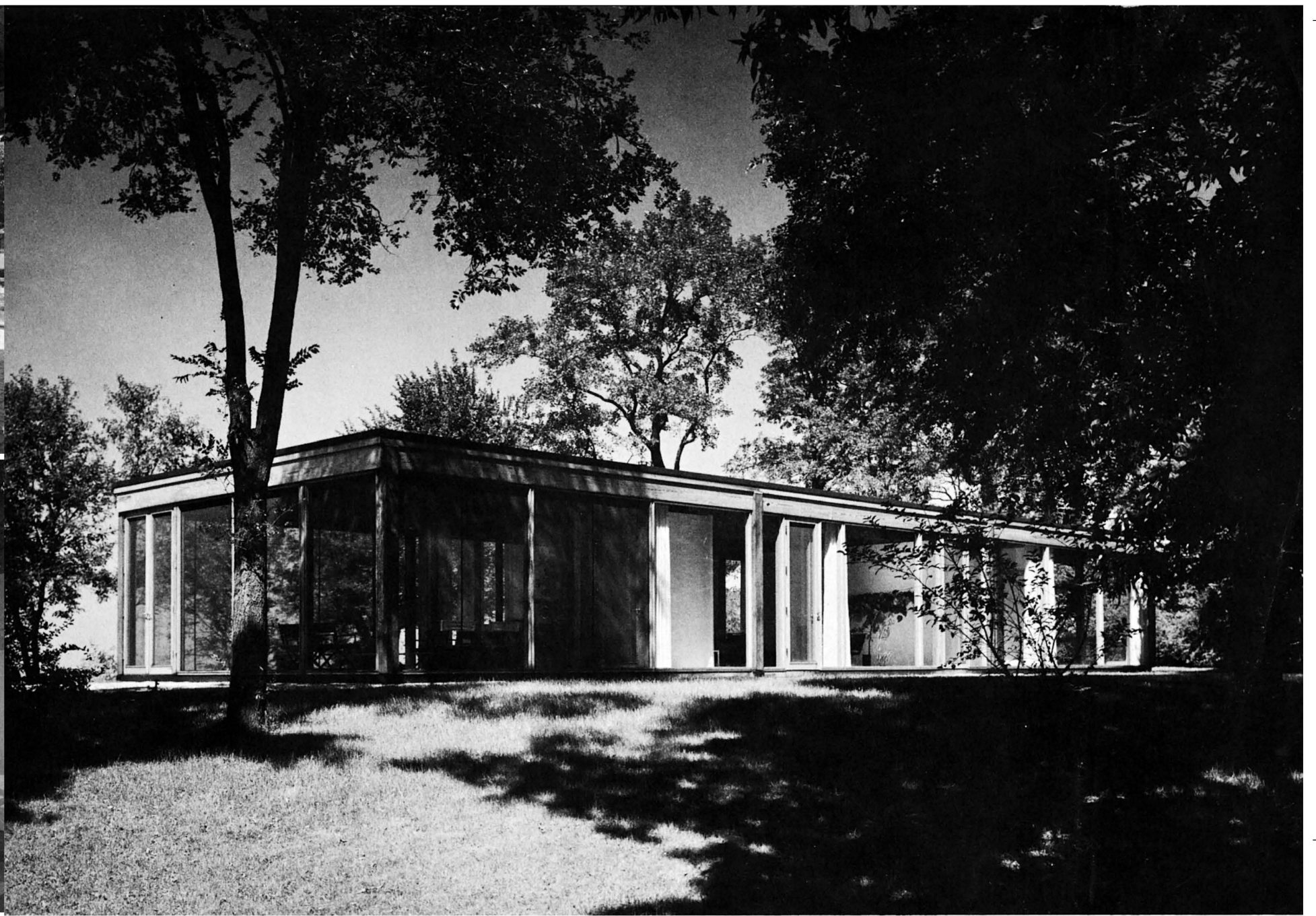


Details of highway project



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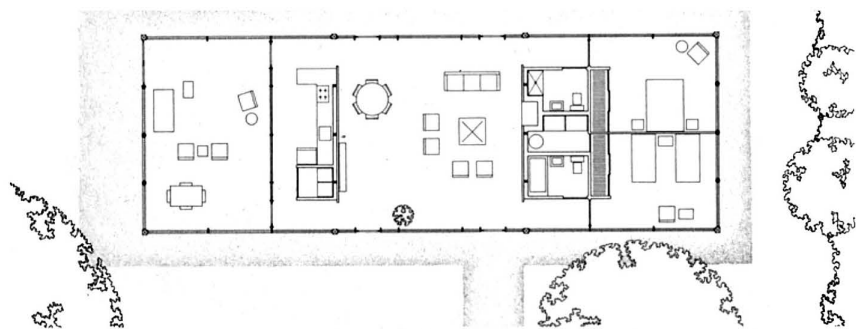
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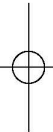


DAVID HAID, ARCHITECT

The site for this week-end house overlooking the east shore of Lake Michigan on a 75'-high, heavily wooded bluff, afforded the possibility of a completely open house with all exterior walls of floor-to-ceiling glass. The living room, in the center, takes advantage of the lake view to the southwest and also looks out over a meadow on the east.

The structure, an exposed wood beam and column system of 24' by 6' bays, is 72' by 24'. The south 16' of the building is a screened-in porch. The roof deck is 2" x 6" tongue and groove wood decking with two inches of rigid insulation and roofing. The polished plate glass walls and doors are supported in wood framing. The finish floor is of buff brick laid over a concrete slab on grade. Interior partitions are white plaster. White linen draperies are used throughout the house.

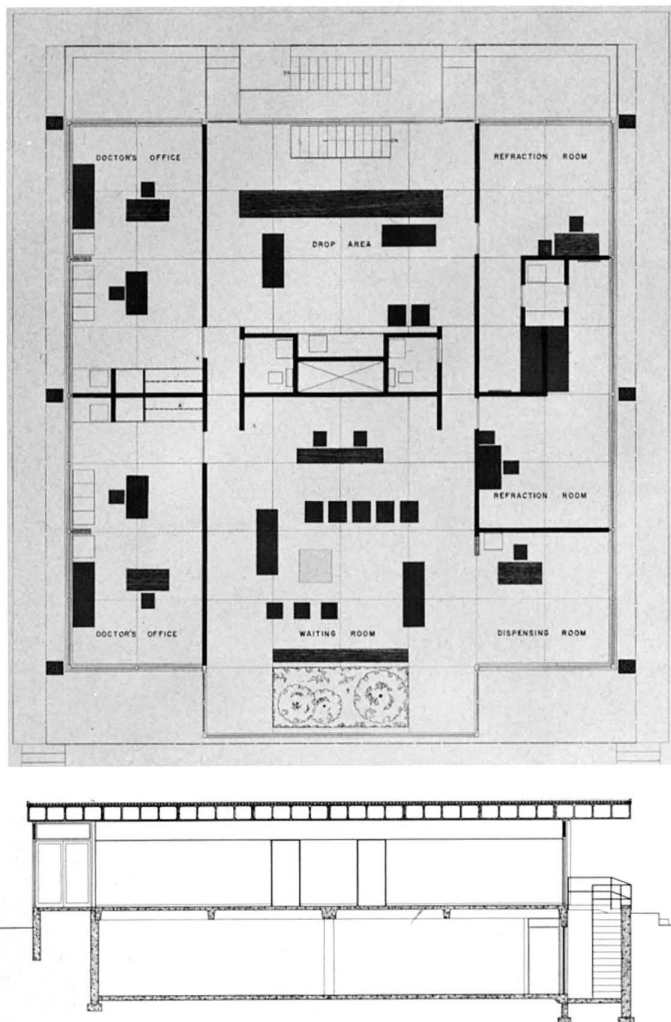




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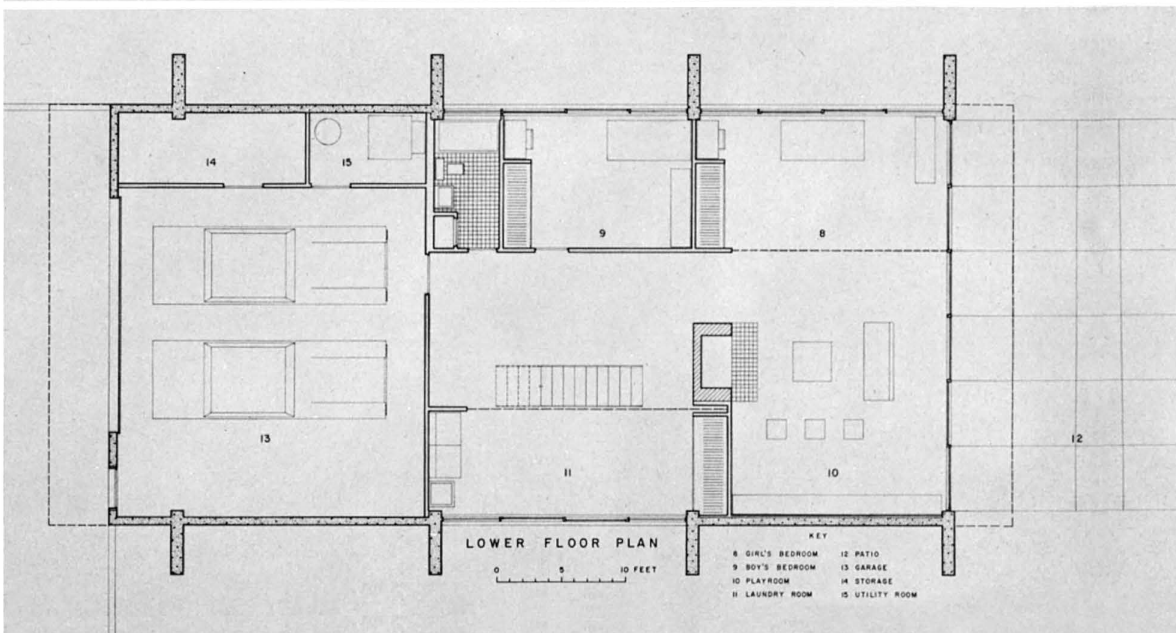
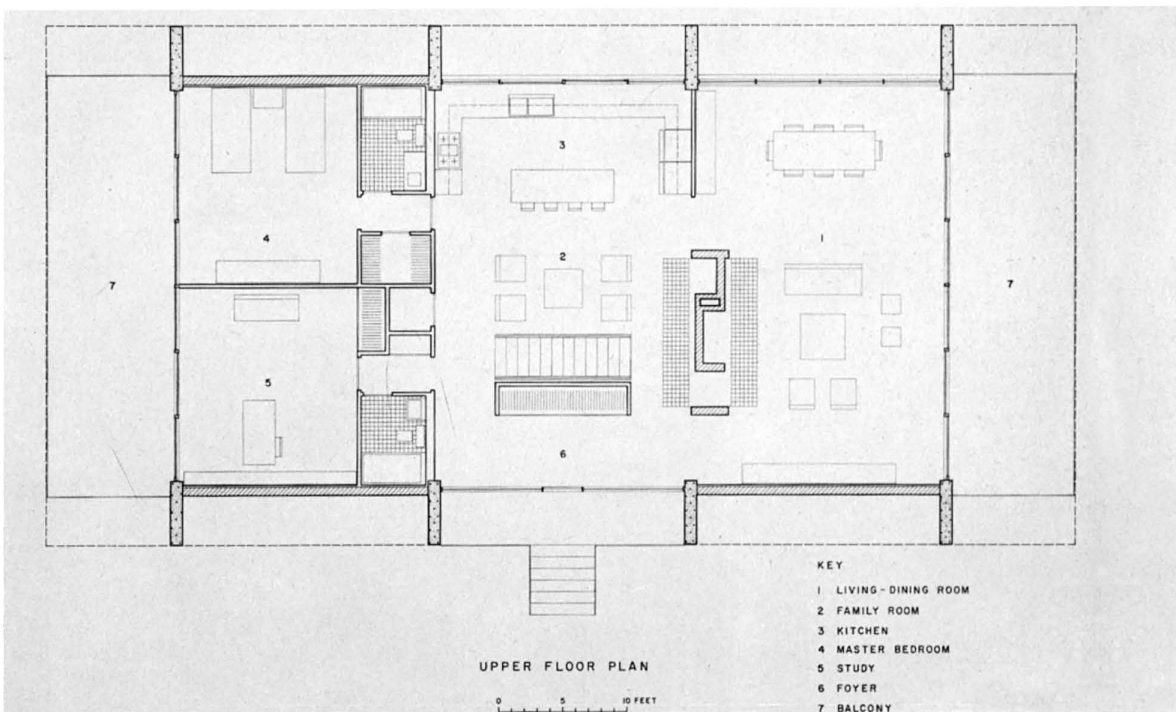
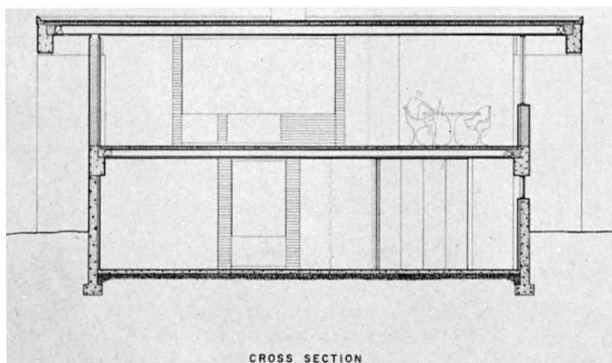


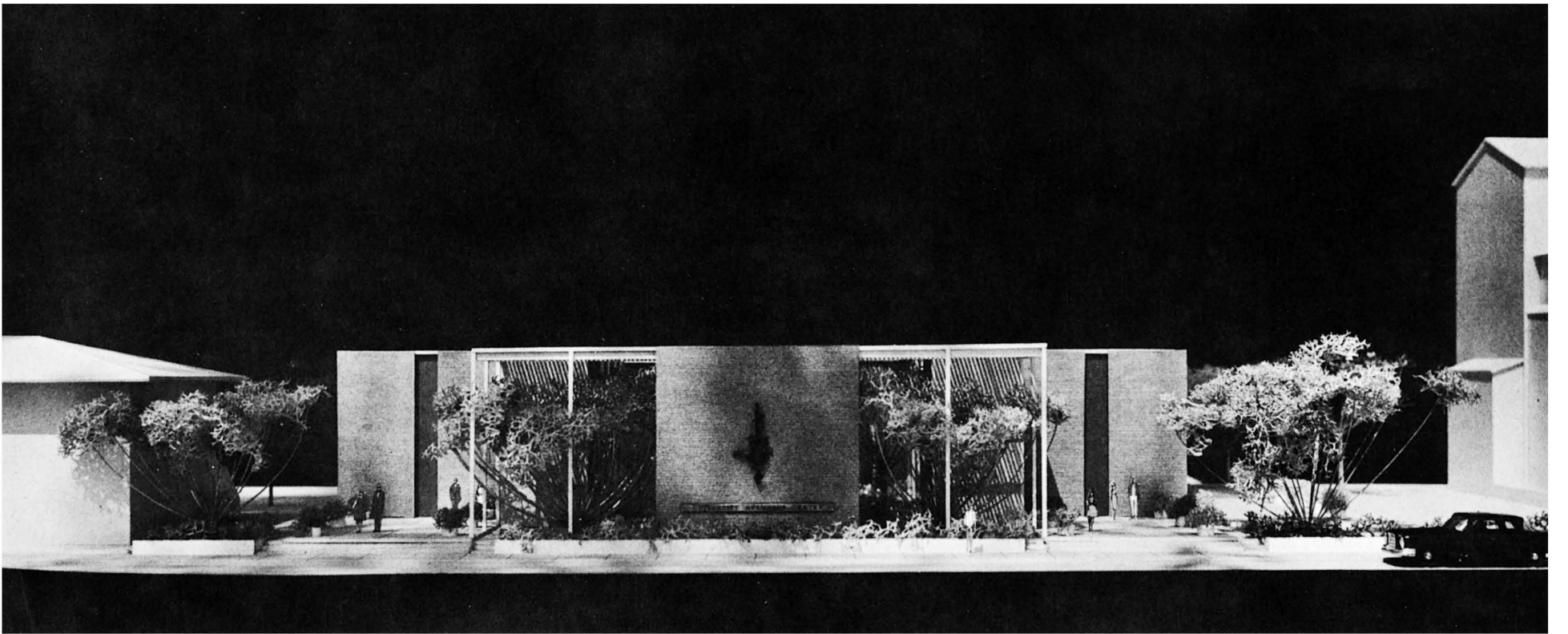


YAU CHUN WONG, ARCHITECT

These two projects by Chicago architect Wong, a house and medical (ophthalmology) clinic, utilize a similar precast, prestressed concrete vocabulary, freeing the interior of load-bearing partitions to achieve a flexibility of space. The clinic (above), located in Harvey, Ill., has roof slabs spanning 52' resting on two reinforced concrete edge beams, each 64' long and supported on three columns spaced 25' on center and cantilevered 7' at both ends. The enclosed space is 50' by 50', divided into four offices, a large waiting room and a drop-in area with separate entrance for patients who have received pre-examination eye medication. The center core is for mechanical uses. The full-size basement, now used for files and storage, can also accommodate additional laboratory spaces when needed.

The house, like the clinic, has precast and prestressed roof slabs resting on reinforced beams and piers and is similarly enclosed with glass and brick.





UNIVERSITY RELIGIOUS CENTER BY KILLINGSWORTH-BRADY & ASSOCIATES



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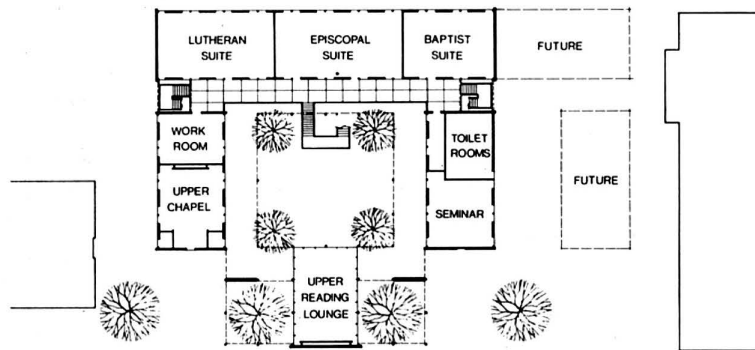
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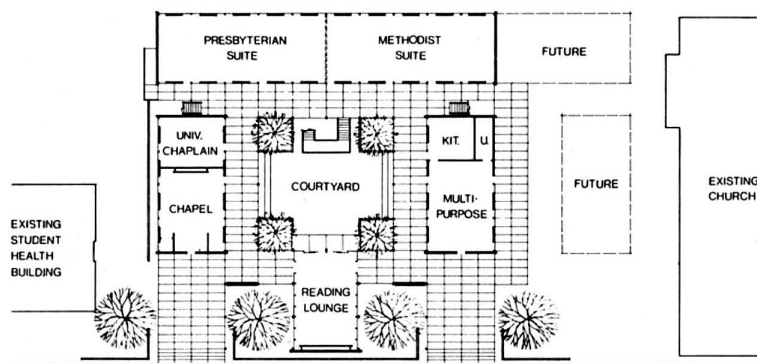
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This religious center for the University of Southern California contains facilities for five Protestant denominations—Methodist, Presbyterian, Lutheran, Baptist and Episcopal. Included in the building are offices for each sect, a common chapel seating 50, student lounges, recreation-dining room and kitchen, a seminar room, work room for mimeographing and like activities, a second recreation area with library, and offices for the university chaplain. An interior court serves as a gathering place and open air auditorium for speakers. The large stairway to the second floor is centered in the courtyard with a landing as podium for speakers. The building is steel frame, plaster and brick and is completely air conditioned. The chapel has a 21'-0" ceiling with wood parquet floor. Large full-length windows are draped with striped fabrics in colors ranging from deep to light gold tones. A baroque organ will be installed with pipes above and on either side of the entry.

Future development will add a religious library and facilities for other religious orders surrounding a second courtyard to the east of the present building and adjacent to the University Methodist Church. There are four large *pittosporum undulatum* trees in the courtyard and four 60-year-old olive trees at the street front.

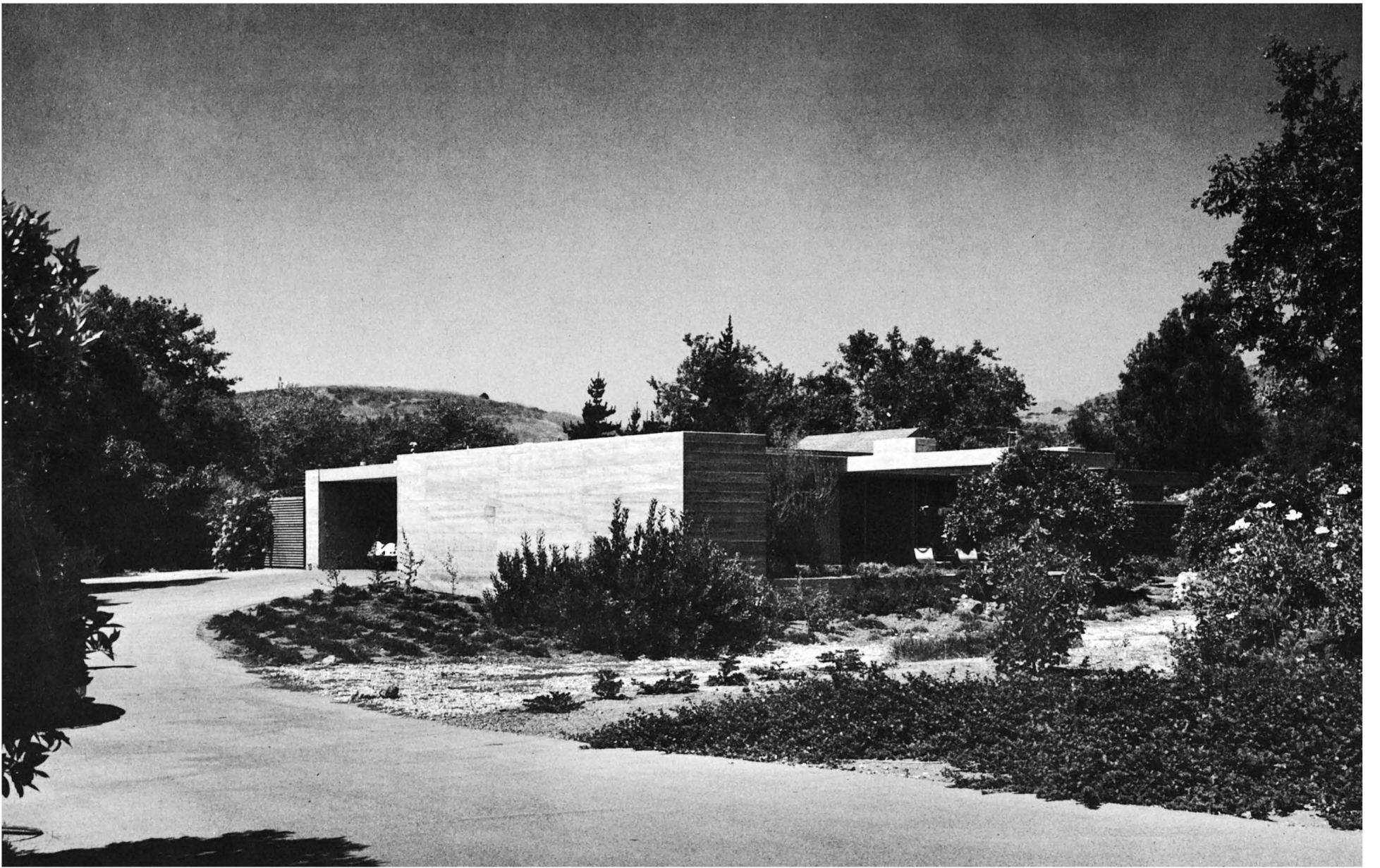


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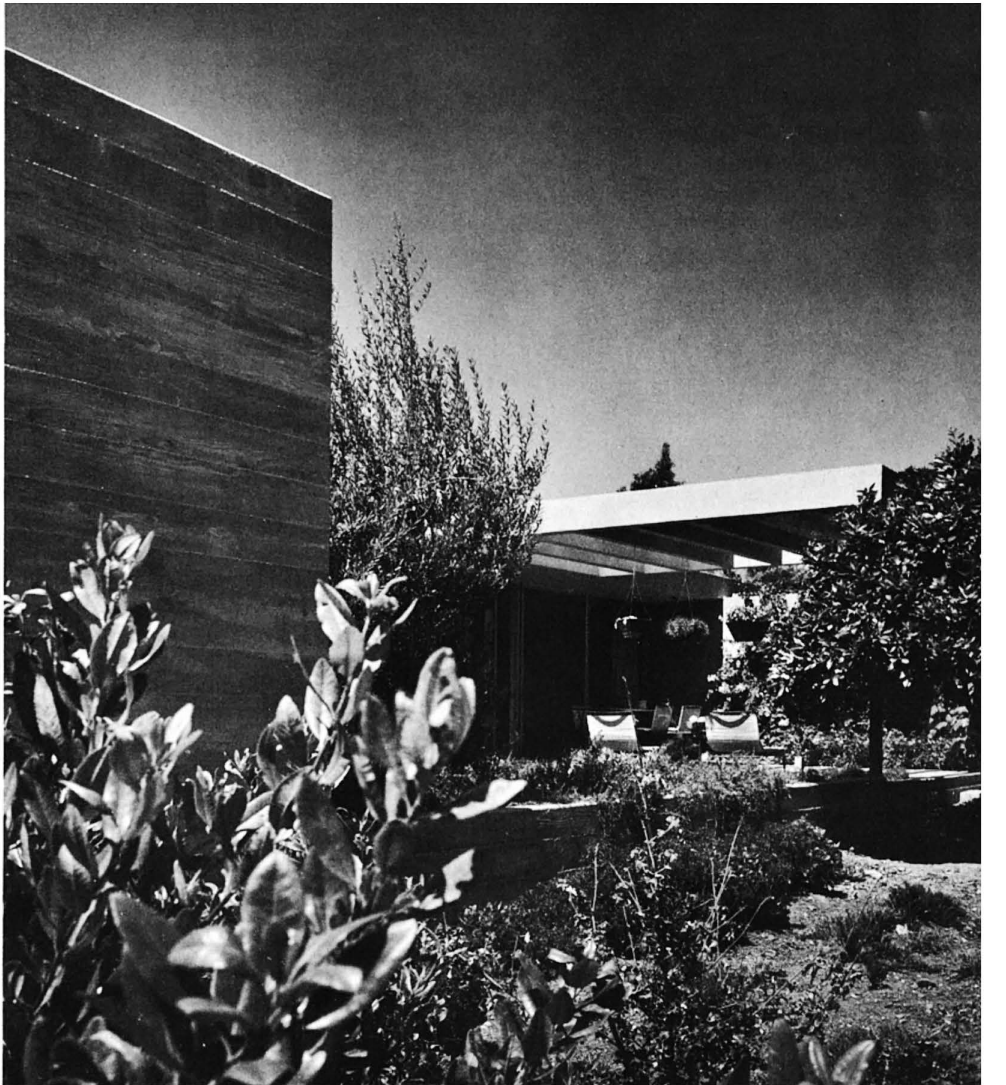


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THORNTON ABELL, ARCHITECT

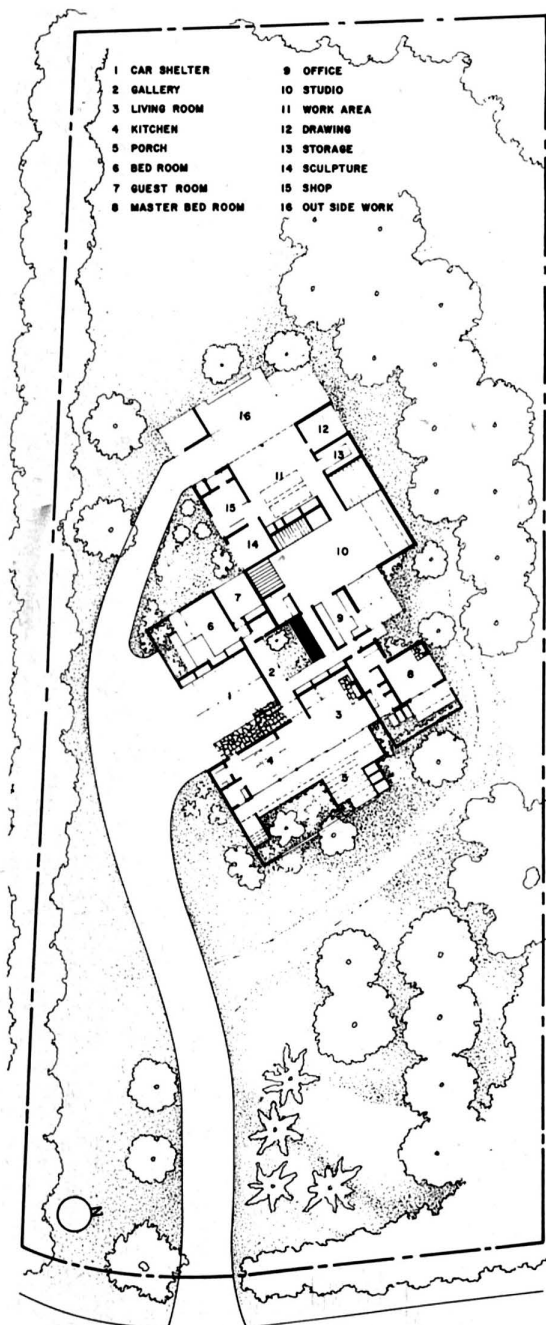


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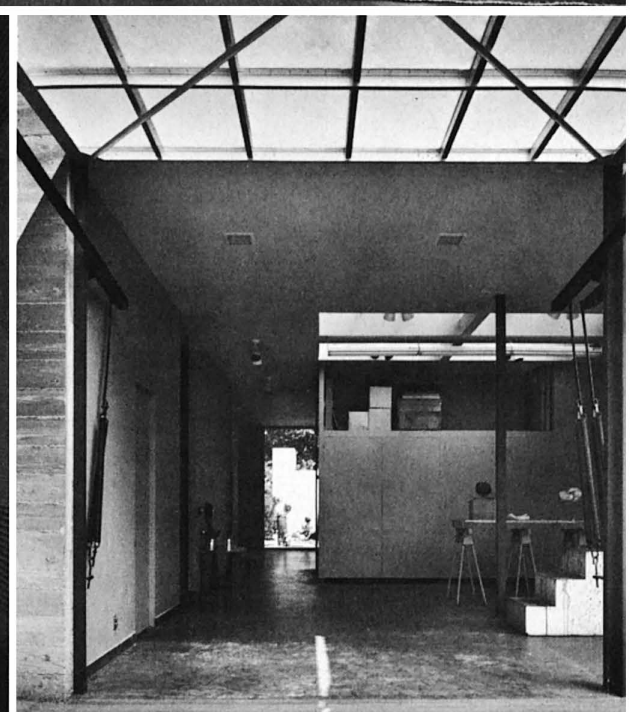
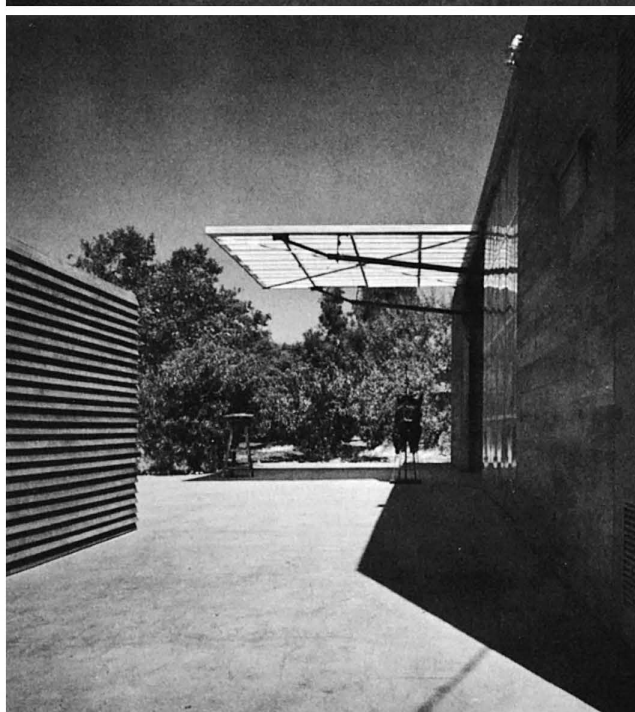
The site of this house for an artist and his family is a wide canyon at Malibu, Calif. There is a wind break on the south toward the ocean, and a group of large sycamores are on the north-east with a distant mountain view. A part of the site is an orchard of fruit trees. A natural depression occurs between the house location and the street.

The requirements of the owner, as developed, provide a large flexible studio where the artist can work in the large scale of his paintings, with areas for working in metal and plaster sculpture, drawing, a photographic dark room and storage for paintings, drawings, frames, materials of all kinds, and trucks for different media used in painting. Hinged and sliding panels of lightweight papercore construction cover painting storage. In the office area are files for drawings, photographs and records. The inside work area extends through overhead plastic and aluminum doors to a large paved outside work space, which has truck access for loading paintings, materials and removing debris. The studio is completely isolated from yet is directly accessible to the living quarters. Entrance is through a skylighted car shelter, to a gallery with enclosed patio. Living area is out of traffic and expands to a covered porch and a terrace, with view of the sycamore trees. Dining is separated from the kitchen by means of sliding panels.



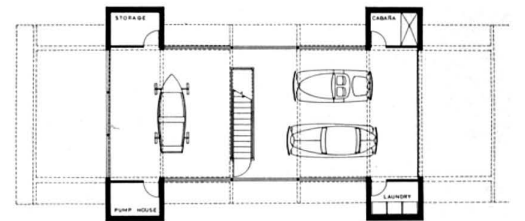
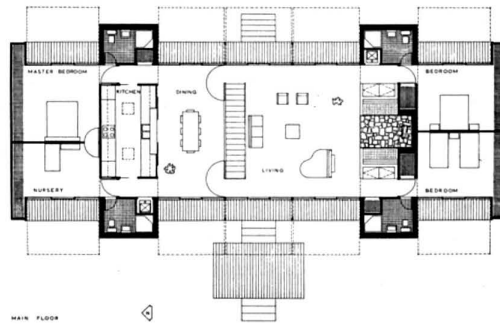
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Photos by Julius Shulman

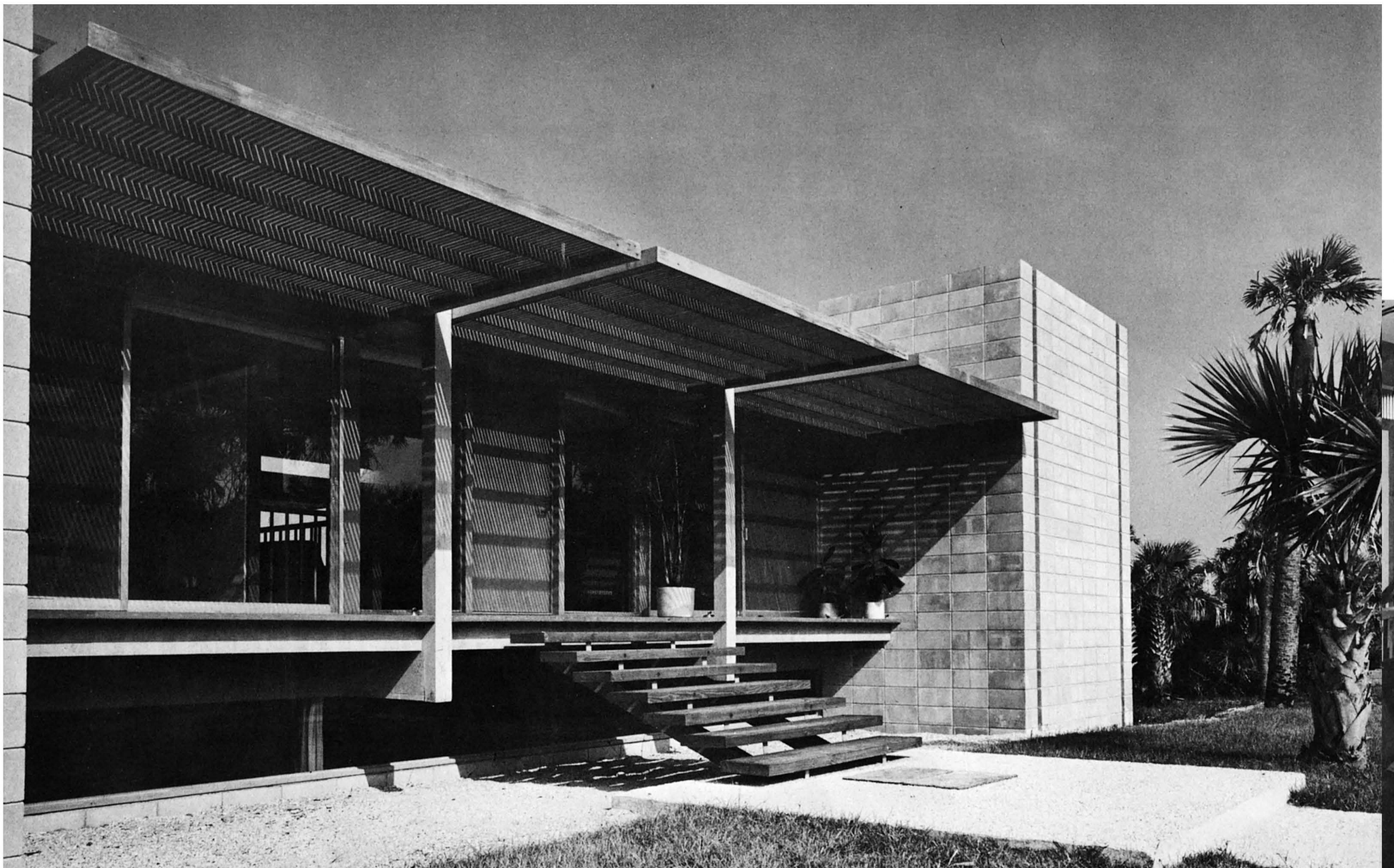




WILLIAM MORGAN ARCHITECT



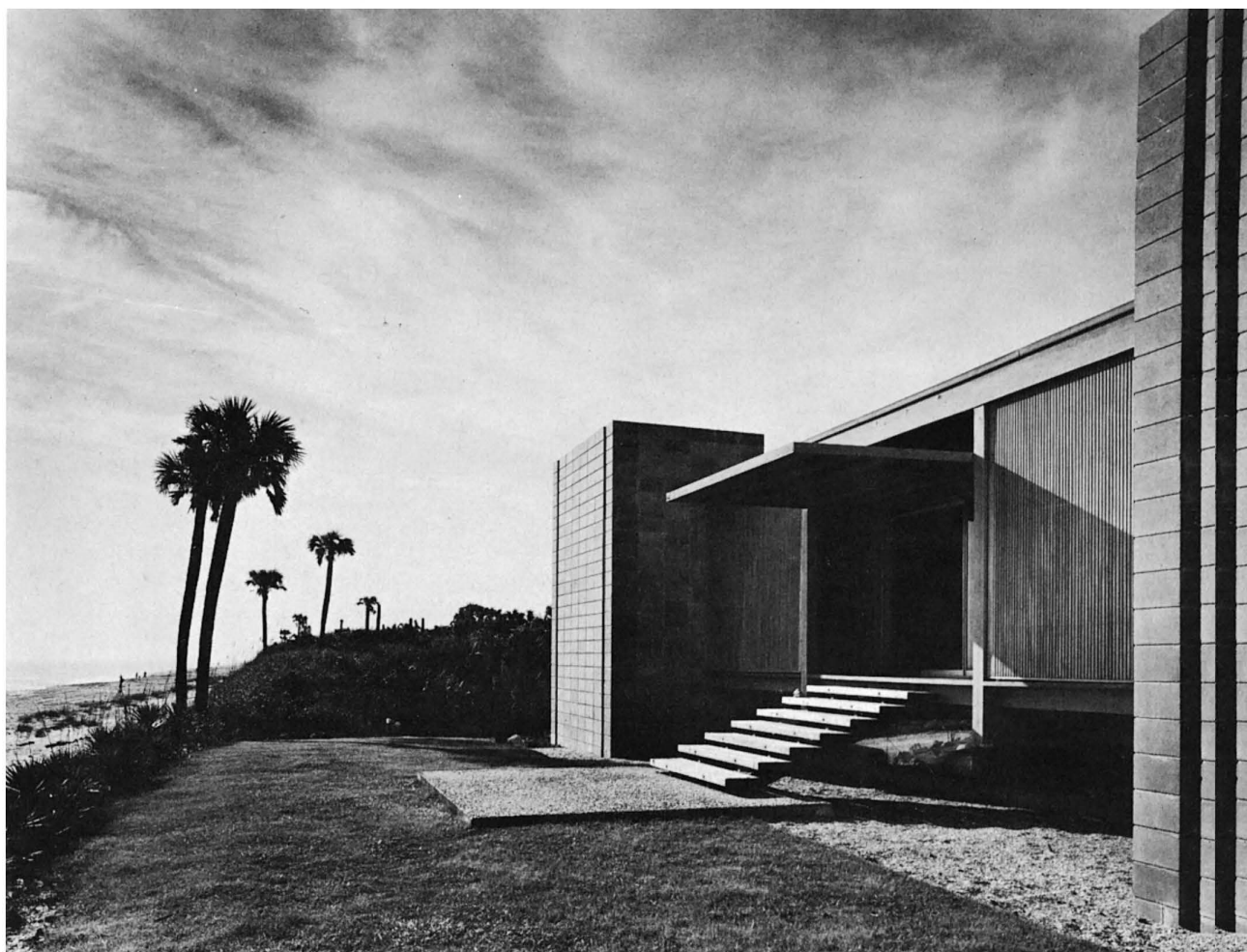
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This residence at Ponte Verda Beach, Fla., was designed for a growing family with three children. The site faces the Atlantic Ocean to the east and is heavily wooded with beautiful wind-blown oaks, bays, magnolias and palms to the west. Rolling dunes dominate the topography and form a promintory 27 feet above the beach near the center of the property.

Main living areas are raised on a platform above the garage and storage areas. The rectangular plan provides maximum view of the beach and forest, and through ventilation. Bedrooms terminate the main floor mass at its cantilevered north and south overhangs and are related to four towers containing plumbing, mechanical equipment and the main structural support. The towers continue downward to form utility areas off the garage, and upward to shield air conditioning condensers, vents and flues above the roof. Counterweighted wood shutters protect exterior glazed areas, providing sun protection in the open position and hurricane and vandal protection when closed. Built in sofas flank the raised hearth fireplace, giving an intimate scale in contrast to the high ceilings and glass walls of the living and dining areas.



music

PETER YATES

REVIEWS

Invited by Mr. H. C. Slim of the University of California, Irvine, Music Department, my wife and I explored our way, overshooting—no sign on the freeway—the correct exit; assisted thence at some corners but confused at others by signs which, like village loungers, left one at a loss what to do next, we reached just after dark of an October evening the open, beautiful campus of the new university erected on knolls in the center of the vast Irvine Ranch, freshly landscaped and planted with such former exotica as Star Pines and Coral Trees, the latter now adopted as the official tree of the city of Los Angeles, though it is not a California native. California native plants and trees do not in general do well in California except in those places where nature intended them to be; they are cultivated as exotica in Britain, while we domesticate South African flora. A South African visitor exclaimed at seeing what she called “Elephant Food” ornamentally planted in our garden; in South Africa it grows like our mesquite in thick patches, and the elephants eat it.

We were invited to hear Easley Blackwood, composer, pianist, and a member of the music faculty of the University of Chicago, venture a program of two immensely long and difficult sonatas: the Second Sonata by the French composer, conductor, and occasional pianist, Pierre Boulez, completed in 1948 at age 23, and the Second Sonata: “Concord, Mass., 1840-1860,” written by the American composer Charles Ives between 1909-1915 (age 35-41) and extensively revised during the 1930s before republication in the currently available edition. Ives died in 1954 and is presently coming to recognition as the greatest of American composers. Boulez made his reputation as a composer during the 1950s and is now one of the world's best conductors; he directed his first *Parsifal* at Bayreuth last summer and will conduct at the Ojai Festival next May. He has lectured in Los Angeles; several of his works, twice under his direction, have been performed by Evenings on the Roof/Monday Evening Concerts. Ives has been called an “amateur” and a “primitive,” both terms inapplicable to a musician who was a church organist at 13, the same year he heard his *Holiday Quickstep* publicly performed by an orchestra, who shared the sound-experimentation of his bandmaster father and studied for four years under the eminent composer-pedagogue, Horatio Parker, at Yale. Boulez studied with the French organist-composer, Olivier Messiaen, and the now-faded tone-row theoretician and conductor, Rene Leibowitz, deriving from them his practice of the totally organized composition, hitched in one direction to the late music of Debussy and in another to the minuscule art of Webern. After the Second World War, Boulez corresponded intimately for several years with John Cage, a decade and a half older than himself, then renounced their friendship because, as he told me, Cage had “gone outside the musical continuum.” Boulez extended his hand to Stravinsky but gave the back of it to Schoenberg for reasons more interesting psychologically than convincing. He has retrogressed as a conductor to the innate romanticism which as composer he rejected, but his recent, much praised, recorded performance of *Sacre de printemps* is more rigid than melodic. Virgil Thomson warned Boulez that his overly strict compositional practice would produce several youthful masterpieces and leave him sterile at 40, a prophecy that has come true.

Since Boulez lacks Debussy's coloristic sense of tone (a substitute for the harmonic tonality which Debussy discarded) and prefers the laborative “total” technique, with note groups for notes instead of the note-by-note austerity of Webern, his compositions are better perceived as interlocking sections of a notational diagram than as compositions in sound. The continually discordant intervals cancel sonority, preventing a variety of tone sufficient to carry a large work: this does not deny that there are passages of exceeding beauty and interest. Ives, using extreme discord and simple consonance together, escaped this handicap. Preferring his father's sound-experiments to the late-Germanic rhetoric of Parker, Ives composed in sound, of which he had an extraordinarily acute awareness though he heard almost none of his larger compositions performed, using techniques of composition that range from medieval isorhythm and

baroque canon to outright noise. He anticipated by several years the *Futurist Manifesto* and noise-composition of Marinetti, Russolo, and their followers. Boulez is by comparison a conservative, still thinking music not in sound but notes.

At a remarkable program arranged by Lawrence Morton to accompany a historical exhibition of American painting at the Los Angeles County Art Museum (Billings, 19th century hymns and popular music, piano pieces by Gottschalk) Ingolf Dahl directed the first Western performance of Ives's *From the Steeples and Mountains* for trumpet, trombones, and a full choir of church bells, an outdoor composition; instead of church bells, the performers were equipped with two sets of orchestra bells and two electronic carillons, a glorious sound—it would have been more so if we had heard it outdoors. Let me not fail to mention also, from this concert, the brilliant, exactly right playing by Charles Fierro of Ives's *Three Page Sonata* for piano and Mr. Dahl's equally right reading of Ives's *Scherzo: Over the Pavements*, the piano taking the lead, its tones marvellously complemented by a small group of instruments, a sound-rhythm of carriages and horses' hooves with early automobile horns and ragtime against the background of soft, discordant polyphony by which Ives conveys a unique spatial atmosphere. He was a far more thorough impressionist than Debussy.

Easley Blackwood comes before the audience with a clumping walk which seems to split his body in half, the hip dropping with the forward foot; upturned face expressionless he bows like an automaton. Away from the audience these idiosyncrasies are not noticeable; his playing appears a marvel of technical ease. When, around 1951, I first heard the Boulez Second Sonata, sitting beside David Tudor while he played it, I seemed to be dodging a continuous eruption of flying elbows and leaping, crossing hands. Blackwood's performance was by comparison as relaxed as if he were reading a sonatina. He played both giant sonatas from memory, no slight accomplishment, confessing afterwards that he must return periodically to the printed music to restore many of the notes to their right places. His audacious, free interpretation is designed for maximum clarity and display, but the pouring out of discordant tones, cut off from correct acoustical relationship, denies a sonority equal to their fundamentals. Thus even the more lyrical passages do not sing, as a piano can sing, but divide between softer and louder in a relatively uniform registration. The fault is latent in the serial method, and I doubt it can be overcome. Schoenberg avoided it by mingling more consonant with severely dissonant relationships, Webern by his austere counterpointing of single tones and the consonant implication of unresolved leading tones. As in all of Boulez's music there is a constant fractioning into discontinuous passages and variations; many of the figures, though lying differently on the keyboard or made of unlike notes, give the effect of flat repetition; the full keyboard is in use, yet the audible variety, passage for passage, is less than that of a well-played Haydn sonata, and there is little of Haydn's sense of determinate direction. Boulez prefers, indeed, that his music should project a large, static pattern, free of direction in time—that is to say, without climax. It is an art totally determinate and not to be interpreted; in his Third Sonata some parts of the pattern may be shuffled, a belated concession to Cage's “indeterminacy,” which Boulez had repudiated. The first movement of Boulez's Second Sonata, like the first movement of his *Structures*, volume 1, for two pianos, repeatedly suggests an origin in Schoenberg's *Six Little Piano Pieces*, opus 19, exploded to unreasonable dimensions. The whole is what I call “masterpiece-making,” trying to be too large too soon, as Brahms in his first piano sonata tried to incorporate Beethoven's “*Hammerklavier*.” Boulez has revived the post-Lisztian “transcendental technique” in a new, contra-acoustical dimension, the high intellectual aim with the deficiencies of expression, more engrossing to watch than to hear.

My wife, Frances Mullen Yates, has been playing the Ives *Concord Sonata*, as it is usually called, since the score was given us for a joke in 1938; she first performed it in 1939 with Otto Klemperer in the audience. Except her performances and John Kirkpatrick's in the East, the work was much spoken of but practically unheard until Kirkpatrick's record, made in 1940, was released by Columbia in 1948. Two other recorded versions, one bad, one creditable, are on the market, and a number of young pianists now program it. Easley Blackwood has been playing the *Concord Sonata* since 1952, always from memory; it is a performance of stunning

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virtuosity, from thunderous to barely audible, eloquent and emotional, especially in the ending of the movements, but insufficiently varied in the polyphonic coloring of tones, often subordinating the lesser volume to the greater instead of articulating the cross-play of individual voices among the chords. Even at full volume he never pounds a tone or chord. In virtuosic habit he divides each ongoing movement into separately dramatized parts, with rubato feeling, separated by pauses; even to our long experience some of these passages sounded a revelation of new possibilities. The whole plan, including those sections with which we disagreed, sustains an almost aerial drama, which for us, as for the less acquainted audience, never let go its grasp and vigor. One might say—as Schoenberg wrote of Mahler, “The rubato corresponded to his youth, the steadiness to his maturity”—that Blackwood’s interpretation is still that of expressive youth, that in full maturity he may prefer to let the work speak entirely for itself; yet the understanding on his terms so interpenetrates the music one can only challenge what he does, not anywhere condemn it. Whatever he may lack of ultimate simplicity he now makes up by magnificence. We feel rewarded to have heard him.

* * *

The real showcase of the arts in the Los Angeles area is not the Music Center, where the Founders and their friends, having spent as usual more than their share of public money, carry on the ancient annual routine: Philharmonic in the winter, Light Opera in summer, other crowd-pleasers between, but no more San Francisco Opera since the Founders, while providing for themselves most amply, failed to provide seats for enough audience to pay the Opera’s expenses. The old Shrine was no place for Opera, but the six thousand seats paid both the Opera’s travels and its deficit. The Founders, holding that it is the duty of the Opera to increase its deficits by appearing in their Music Center, refuse to assist in presenting future performances at the Shrine. Hoping to make up the difference the Opera has extended its San Francisco season, and parties of Los Angeles opera buffs commute by chartered plane to hear it. We can thank Buffy’s buffs of the Chandelier Pavilion for this improvement.*

The real showcase is now UCLA. Without the year-around recitals, chamber music, dance, drama, yes even opera, which UCLA presents, we should be isolated from the cultural living of the continent. So the Music Center, instead of establishing its own acting company to occupy its new theater, glommed on to the UCLA repertory troupe, which has some national reputation. UCLA meanwhile, with the help of the Gladys Turk Foundation of Los Angeles, has created a new Opera Theater with Jan Popper of the former UCLA Opera Workshop as musical director. Besides performing at the university, the Opera Theater will visit other universities and communities, in the hope that young singers will be able for the first time to learn opera at home, instead of having to go elsewhere or abroad as in the past. If they can turn up as many great singers as Los Angeles City College in its heyday under Hugo Strelitzer, the venture will be worthwhile.

To inaugurate the new plan the Opera Theater presented a novelty, a musically accompanied talk-spiel which is scarcely an opera at all, though the actors enunciate to pitches and there is some singing in it. The late composer Robert Kurka at his death left unfinished his opera on Jaroslav Hasek’s unfinished comic folk-novel, *The Good Soldier Schweik*. For once the libretto, by Lewis Allen, surprisingly faithful to its diffuse source, is better than the music. The unit staging, expert stage management, knockabout dramatic ballet sequences, and acting would have done credit to a Broadway musical. The singing did the best it could with the few musical op-three French horns), tympani, and snare drum, was appropriate. Norman Kelley, a guest comedian, of satisfactory appearance and

*Just as the money spent to please the Founders at the Pavilion was not spent to provide another thousand seats or adequate backstage dressing room facilities or a pit large enough to accommodate a full operatic orchestra, and we have lost as a result the annual San Francisco Opera season as well as the working space for an opera of our own; and in the same way that the moneybags who became trustees of the Los Angeles Art Museum made the position of Director untenable for a man of integrity, and we lost our Director, who was such a man; so now the board of directors of the Pasadena Art Museum, while planning their new \$6 million-dollar building, have accomplished the resignation of their director Walter Hopps. Thus it has been made plainly evident that in the Los Angeles megalopolitan cultural area money rules; esthetic experience and integrity and the broad public interest must take second place. We can expect to have here in our cultural institutions only a weak authority that will submit to the local power structure and its bullying.

opportunities. The primitive accompaniment for solo winds (except with a well-trained vocal routine for this opera, carried the burden of the evening.

As an opening wedge for communities unaccustomed to the rigor and long hours of grand opera this venture may be educational. Yet even in the backcountry around Santa Cruz, Berkeley, San Diego, Riverside, Irvine and Santa Barbara, where the Opera Theater will go on tour, the cowboys and shepherds expect from an opera, first of all, singing. They may be better pleased by the second scheduled opera, Cimarosa’s melodious *The Secret Marriage*.

In European opera houses, where *The Good Soldier Schweik* has been repeatedly performed, the larger repertory can sustain a comic work of these dimensions. Here, with no repertory to support it, it is “Elephant Food.”

* * *

Evenings on the Roof/Monday Evening Concerts, now in the 28th season, presented on October 31st for the 12th time, the world premiere of a new composition by Stravinsky—breaking the record of Diaghilev Ballet which had 11. With these 12 gifts, from the *Three Songs by William Shakespeare*, dedicated to Evenings on the Roof, to the latest, his setting for soprano and a very subtly articulate piano of *The Owl and the Pussycat* by Edward Lear, the master has honored the concert series he faithfully attended for many years. On this occasion, too, he was present but backstage, tired after the latest of his flights about the globe. Soprano Peggy Bonini and pianist Ingolf Dahl performed the little work twice in succession with delightful clarity and charm. Designed to make understood every word of the beloved poem, it is not a crowd-pleasing item but a very unusual song. And its existence revealed, like several of his recently published *Conversations*, Stravinsky’s new pleasure in the discovery of English literature and its language. To his many accomplishments he has added now a humorous and deadly accurate mastery of English prose.

At this concert Michael Tilson Thomas played Beethoven’s C minor Sonata, opus 111, in a style quite different from that of his performance last winter. During the summer he was employed at Bayreuth as assistant and studied with conductor-composer Boulez. The formerly dramatic and unitary reading is now lyrical and virtuosic, diversified in many parts, slower here, faster there, softer occasionally but not louder. Either performance would stand high among the best that I have heard. When the two styles combine, that should be a great event.

He performed also, with Ralph Grierson, Mozart’s luscious Andante and Variations for piano duet; accompanied Gretel Shanley, flutist, in *Oblique Formation* by Charles Boone, well made in the current, anti-melodious habit, with an unusually well-shaped conclusion; and contributed at the “prepared piano” the wittiest of three improvised cadenzas to the world premiere of *Double Trio* for piano, tuba, prepared piano, electric guitar, and two sets of percussion, by William Kraft, tympanist of the Philharmonic. Mr. Kraft’s big, immensely showy composition did not suffer by being heard in the same program with the Stravinsky premiere. Its success with the audience demonstrated a point I have often made, that a tone-row and a discordant technique need not be so dull as such works usually are, if the composer has been at pains to make the music *sound* as well as show. The percussion cadenza by Kenneth Watson, with six tympani and an assortment of other sound-producers, was a display of virtuosity one seldom has opportunity to witness.

* * *

The Martha Graham Dance Company appeared five times at UCLA on their first American tour in 16 years. Martha Graham appeared twice, in *Judith*, which I saw, and *Clytemnestra*, which I regretfully missed being committed to another engagement. The functional stage sculptures by Isamu Noguchi and Dani Karavan furnished sufficiently the otherwise open stage; Jean Rosenthal’s always unobtrusive lighting worked. These with the costumes gave a spectacle rich, diverse, and visually exciting.

George Balanchine, Carmelita Maracci, Merce Cunningham, and Martha Graham have been in my experience the great choreographers of American dance. Balanchine has adapted the traditional ballet to the American stage. Maracci, working with utmost economy, created drama without spectacle. As soloist in a technique combining ballet with Spanish dance and an extraordinary

individuality she was unequalled; her *Piano Stool* and *Hatrack* dances, and *Lament for the Death of a Bullfighter* with her small group, exist in memory beyond comparison. Cunningham's choreography is, by his preference, a group creation. Dance-dramatist Martha Graham has been for thirty years the central figure of the American theater. Dance and stagecraft are her medium of tragic drama, with such sexual satire plays as *Part Real—Part Dream* and some lyric comedy. Her drama without words may be thought of as an opera of motion, totally integrated with the orchestral compositions she has commissioned. Yet "opera" is not the best comparison; her work stands apart like the classical French tragedy of Corneille and Racine, a visual declamation, a physical poetry as vividly sensual and sexual and wrapped in tragic circumstance as it is remote in its abstraction from realism. But whereas classical French tragedy originated with the dramatic poet and has been conveyed by generations of actors and actresses, Graham's tragic drama has been the conception at once of her creative vision and of her unique invention and power as executant.

Now in age well over 70 Martha Graham has been transferring her leading roles in these self-conceived dramas to younger dancers who have long worked with her, Helen McGehee, Yuriko, Ethel Winter, Mary Hinkson. They are of nearly equal ability, but they are not Graham. Nor from this present estimate, seeing them in their own as well as Graham's roles, do they seem likely to become so. They are beautiful; they dance beyond criticism; but the stage does not resonate. Great male dancers have come out of the Graham company, perhaps more first-rank men than women, but while they have been with Graham her binding power could not release them. The male roles, directed to herself, are sexual simulacra.

When in *Judith*, a role she has severely limited to her present physical capacity, Graham at last appeared, the audience did not interrupt her by applause; her dramatic resonance the more instantly held attention. The great drama which exploded around her, unremittingly sexual and violent, partook no longer of the art of dance but became tragedy in the tradition of Euripides and Racine, a power stemming not from its medium but from its content. Yet for all she played her part as the great actress in the medium of dance, the disabilities of age, as one watched her, grew painfully evident. One watched not a single but a double tragedy, the poignancy of the real breaking through that of the illusion, so that I would not wish to see it again.

One must hope for the survival of her drama, and that new tragedies of her art, never subordinated to her and not having seen her dance, will learn to recreate these dramas, influenced but unconquered by her imperial image.

HOW TO GET RID OF SMOG

scientific unraveling of the obviously complex problem.

In 1950 the break came. Professor A. J. Haagen-Smit, a professor of biochemistry at the California Institute of Technology, demonstrated that smog was the result of a *chemical reaction in the atmosphere itself*, that smog was not just the sum total of things dumped into the air. He showed that when hydrocarbons (gasoline vapors) and oxides of nitrogen (in every high temperature combustion, some of the nitrogen in air is oxidized) are mixed in the presence of ultraviolet light (sunlight) they undergo a series of reactions terminating in the formation of a new group of irritating compounds which he termed "oxidants." For the first time, then, even though the specific composition of the oxidants had not been established (and still hasn't), the raw materials of the brew were known and the great detective hunt was over. It was now possible to seek out the sources of hydrocarbons and oxides of nitrogen and shut them off.

The key facts soon came to light. The principal source of energy production in California is petroleum combustion. The production and transportation of liquid petroleum products, principally gasoline, result in the loss to the atmosphere of many tons of gasoline vapor per day. Any combustion of petroleum, or other fuel, results in production of oxides of nitrogen which are discharged into the air along with smoke, carbon monoxide, carbon dioxide, sulfur dioxide, and other pollutants. These facts pointed the finger at every home, factory, public building, and motor vehicle in the state. From the dilemma of having no culprit, we found ourselves in the absurd predicament in which everyone was a culprit.

For the next ten years, the state, local governments, and industry

embarked upon a truly epic effort on many fronts.

Local air pollution districts established and enforced strict regulations governing the emission of virtually all types of waste gases and solids to the atmosphere. Universities and research institutions plunged into pioneering efforts to elucidate the mysteries of the newly discovered reactions in the atmosphere. Meteorologists throughout the country began, for the first time, to study the forces of air behavior close to the ground where smog is formed and trapped, rather than aloft where weather is made and planes fly. The state mounted a comprehensive program of measuring, for the first time, the air quality in the many regions of the state and began to equate this quality to the time and location of emissions, both fixed and moving. The automobile industry, sensing its coming major involvement in the problem, began intensive study.

The picture began to emerge unmistakably clear. The classic problems of dust, smoke, odor, sulfur dioxide, and carbon monoxide were all present in California. But the dominant factor was *photochemical smog*, which was attributable directly to hydrocarbons and oxides of nitrogen, that is, to the combustion of petroleum. Classic regulatory approaches had shown their efficacy in coping with air pollutants from fixed sources of emission, except for oxides of nitrogen; but the motor vehicle emerged as the dominant element, which uncontrolled could by itself so pollute the air of California cities as to make them uninhabitable.

In 1959, the legislature directed the State Department of Public Health to establish standards for the air, and, based on these standards, to establish limits for motor vehicle emissions. It also established a Motor Vehicle Pollution Control Board to test control devices, and when effective devices, or systems, were available, to require them on California cars. Thus, 30 years after air pollution was first recognized as a public problem in California, the state openly acknowledged what the problem really was and provided the legal muscle to tackle it.

The rest is history familiar to everyone. The state set standards at three levels: a "clean air" standard, a standard of "public health concern," and a "disaster level" standard. Next, the state decided that the motor vehicle control program should be based upon the "clean air" standard and established standards for motor vehicle emission on this basis. The standard for hydrocarbon called for an 80 percent reduction in the *average* emissions from motor vehicles. No devices were available which could meet this standard and not until 1966, did they appear on new cars sold in California.

The state now faces a crisis in its motor vehicle control program. Because half of the cars in California are more than five years old, the effect of the new control devices will not be noticeable for several years. The 80 percent reduction, itself, will become inadequate in 1970 because of the increase in the number of cars, so new motor vehicle emission standards have already been set for 1970 which call for reductions considerably greater than 80 percent. This standard itself would hold the line only until 1980. It remains to be seen whether with internal combustion engines the motorcar manufacturers will be able to meet this 1970 standard. Obviously, we are near the end of the road on this approach if the number of motorcars continues to increase.

This year the state set air standards for oxides of nitrogen, but these are based upon health effects and color, not upon the role which oxides of nitrogen play in the photochemical reaction. A fierce debate now rages in technical circles as to whether it is practical to lower oxides of nitrogen in motor vehicle exhaust to levels which will alleviate the photochemical reaction, particularly since these gases are not now controlled in fixed installations.

Stripping away all of the fine points of the technical debate, one conclusion is inescapable. If we are to have clean, transparent, and non-irritating air in our basins, we must control the number of gasoline-powered motor vehicles that operate in them. Can we do it? The answer lies in our response to two very basic and gutty issues:

1. The first issue involves the conflict between individual choice and the public interest. In this instance, the individual choice is the choice to drive one's own car. This is not so much a matter of cost, or even convenience, as it is a deep-seated question of culture and self-image. When man first mounted a horse and identified himself with it, he became a superior individual with capabilities, authority, and prestige far superior to those of his pedestrian counterpart. The West was won by men on horseback

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and the private motorcar is today's horse. It is difficult for a Westerner to understand how a resident of New York City can possibly get along without his own "mount." So it is idle to plan that Californians are going to give up their individual automobiles. They simply aren't. I think it is possible to make a bargain with many of them to leave their "horses" at the perimeter of congested urban areas if we can build public urban transportation systems which base their appeal not only on comfort and economy, but on speed, novelty, and exhilaration of the ride. But while the creation of such systems may partially reduce smog, at least temporarily, they will not solve the problem no matter how fervently we wish they might.

2. The second basic issue has to do with the freedom of private enterprise when the public interest is involved. The private enterprise at stake here is the motorcar manufacturing industry, and the key question is the kind of power plant provided to propel the motor vehicle. Now, indeed, we have arrived at the very crux of the problem. California has, to all intents and purposes, a fixed air capacity to receive wastes, and this capacity will soon be overtaken over vast regions of the state even with full use of mass transit, if the internal combustion gasoline engine in its present form continues to be the power source for motor vehicles. If urban and industrial development continue as predicted, by the year 1980 fixed sources of air pollution alone will place the maximum burden on the atmosphere compatible with good air quality, even though the sources are fully regulated. After 1980, combustion sources of power development in fixed installations must be progressively replaced with nuclear sources if clean air is to be maintained, even though the motor vehicle exhausts are eliminated.

It is clearly evident, therefore, that between now and 1980 the gasoline-powered engine must be phased out and replaced with an electrical power package or at least one which does not emit hydrocarbons and oxides of nitrogen. This is far too fast a change-over to be accomplished by private enterprise on a voluntary basis. One reason is the massive capital investment that must be "suddenly" written off. A more formidable obstacle is the high cost of a crash program of development of a new power source. An even greater deterrent is the risk to private enterprise that for the first few years the new power source may lack some of the attributes of performance that are possessed by the gasoline engine and prized by its driver, so that the innovator would be at a competitive disadvantage.

The only realistic way to bring about this historic kind of change-over on schedule is to demand it by law in the public interest; that is, to serve legal notice that after 1980 no gasoline-powered motor vehicles will be permitted to operate in California.

This idea, in turn, raises the question of public understanding and support, without which no such law could be passed or enforced. So we are back at long last to where we started—with the people. What will it cost them and is it worth it? It is not unreasonable to assume that a new type of power plant, including its developmental costs, would increase the average cost of motor vehicles during the changeover period by \$500 per car. If the people knew this, how would they react? I believe that if the question were properly presented, the people would say "yes." The \$500 extra car cost, spread over a five-year vehicle life, amounts to \$100 per year per car, or \$100 per year per working adult (in California there is roughly one car per person of wage earning age). It will cost each responsible adult citizen of California 28 cents a day over a 10-year period to eliminate once and for all the murky skies and choking smog that now typify what once was the Golden State. Surely, in this land of affluence, that's a bargain.

As a last-ditch plea for delay, someone is sure to ask, "How do we know a new exhaust-free power package can be developed on a crash schedule?" The answer is that it's merely a matter of hardware that can be produced on demand if we are willing to pay a modest premium. No new principles of energy conversion are involved. The new power source can be far more efficient and, ultimately, it will give us a horse under the hood that will bring back the thrill of that first car.

LAWSUIT AS SOCIAL ACTION

develops emphysema and his doctor states that it was due to long-term inhalation of the city's polluted air? Most lawyers would not regard this as a case since there is no apparent defendant here.

Research, however, may show that there is one or just a few main sources of the pollution of the air in the city. The local power company may account for the major share of the pollution, as for example does Con Ed in New York. Or the city itself may be the prime cause, through its buses, dumps, and public housing furnaces and incinerators. . . .

The defendant may, of course, often be but a single source of pollution that can be readily pinpointed. The leading case here is *Hagy v. Allied Cematic & Dye Co.*, 122 Cal. App 2d 361, 265 P. 2d 86 (1954), where Mrs. Hagy was a passenger in a car which drove through a cloud of sulfurous fumes emitted by defendant's plant on the side of the road. The cloud was formed because of a thermal inversion. Mrs. Hagy's dormant cancer of the larynx condition was reactivated, and four months later she underwent laryngectomy. Negligence on the part of the factory in emitting the fumes at the time they did was affirmed on appeal as a basis of liability.

It should be noted that the defendant sued need not have been the sole cause of the damage alleged. For one thing, his contamination of the air may combine with other similar pollutants, creating point liability. Or his contamination may aggravate pre-existing diseases or potentiate other substances, such as cigarette smoke. As medicine comes to recognize more clearly the role of air pollutant in the production of disease, the task of the attorney in making the resultant damage actionable will increase. Original thinking in finding the proper theory of action and investigation of the proper defendants will be required in the handling of a successful air pollution-lung damage case.

GOVERNMENT ACTION

control efforts and an interstate enforcement authority. . . .

I think it can be said that we have reached the point where we have established the basic federal institutions and programs for the control of pollution. Our major remaining problems can be summarized as follows:

How much money do we need to spend—at the federal, state, and local level—to abate and control pollution and to improve environmental quality?

What institutions will best operate to finance and manage pollution control programs within the context of the federal system?

What mechanisms should be established for detecting, monitoring, and triggering appropriate controls on "dispersed" or exotic pollutants whose hazards may be long-term rather than immediate in impact?

What financial incentives or penalties are appropriate and desirable in encouraging private citizens and corporations to accelerate pollution control efforts?

How can we prevent overlapping of competing federal, regional, state and local programs from impeding rather than helping our efforts to improve the quality of our environment?

The control of our environment and its improvement is and must be a constant experiment. And, within the framework of logic and the application of scientific techniques, it must remain essentially a process of trial and error. We cannot create political institutions in the laboratory which can be set down in the world as perfect instruments for the implementation of public policy. We have a social as well as a biological inheritance, and changes in the social and political structure must be made with care. But they must be made, and soon, if man is not to waste his birthright and ignore his trusteeship for future generations.

DORE ASHTON—ART

Revealing, though, is a device known to artists in other periods. In the tiny temple in Ravenna called, I think, Galla Placidia, with its predominant blue mosaics and its alabaster windows, narrow and barely admitting the light, the artist knew that the viewer would have his image revealed slowly; knew that the blueness would be *dis*-covered only as the eye adjusted to the dim light and could discern the very slight variations in value.

Mystery, said Jean Cocteau, "is perpendicular to language."

Mystery, in the work of Reinhardt, is perpendicular to the language of painting. Like language in poetry, the paint comes first and imprints its mystery upon the imagination through its formation as matter. Reinhardt's art may be "non-pictorial" but it is not non-painterly.

books

THE SHADOW OF SEQUOYAH: Social Documents of the Cherokees, 1862-1964, translated and edited by Jack Frederick and Anna Gritts Kilpatrick (University of Oklahoma Press, \$4.50)

This is the eighty-first in the invaluable *The Civilization of the American Indian* series of books published by the University of Oklahoma Press, too many volumes of which are out of print. I knew Jack Kilpatrick as an undergraduate music student at the University of Redlands. He returned to Oklahoma and commenced writing choral music on Cherokee Indian texts and melodies, soon winning so much popularity for his indigenous compositions that his admirers formed a Jack Kilpatrick Society. He became Chairman of Music at Southern Methodist University, Dallas. For all his regional popularity, his music has found no hearing among musical sophisticates on either coast. More recently he has been devoting his time to study and translation of the surviving documents in the Cherokee language, a speech so difficult to learn that, as he writes, "One speaks Cherokee from the cradle, or one does not speak it. The intense cerebration that it demands extends even those who cannot speak anything else."

Around the year 1821, a Cherokee named Sequoyah invented a syllabary (a set of characters each used to spell a syllable but not single sounds as in an alphabet). A page of the *Cherokee Phoenix*, a newspaper, dated Wednesday July 9, 1828, printed in the syllabary, is reproduced on the dust cover of the book. The self-achievement of a written language testifies to the high culture of this Indian nation, which lived peaceably in Georgia, Alabama, Tennessee, and North Carolina until gradually thrust westward by encroachment and fraudulent treaty. Those who would not leave were hunted as outlaws and squatters until they were permitted to settle on lands owned by a white man, Will Thomas, who became their protector. During the Civil War they fought for the Confederacy under his leadership as the Thomas Legion. Many of the Cherokees who had earlier moved westward became wealthy and some were slaveholders; those who stayed suffered extreme poverty. Frugal and honest they recorded carefully even the smallest money transaction.

Of the large Cherokee literature only a small part remains; as the younger Cherokees entered American society, losing their identification with their past, they destroyed a great part of these documents, which most of them could no longer read. Small collections of these documents survive; those which make up this book include letters from members of the Thomas Legion, household remedies and magic, minutes of meetings, committee regulations, religious statements, meditations, and hymns, and private memoranda. It is an appealing, intimate record of a way of life and manner of thinking exotic to our own, yet important in our history.

Jack Kilpatrick and his wife Anna are both Cherokees. Some of his acquaintances insist he is only part Cherokee; the best proof is his understanding of the difficult language. He is, to my knowledge, the first American Indian composer within the European tradition. He and his wife have preserved in this and other books and articles a meaningful inventory of the thought and tribal government of their people. We forget too often, as in the past our government has many times forgotten, that the Cherokees, like the other native peoples of our continental nation, are also Americans, our people.

EARLY CHRISTIAN AND BYZANTINE ARCHITECTURE by Richard Krautheimer (The Pelican History of Art; Penguin Books, \$20)

A solid book and substantial scholarship, written by a German scholar now at the Fine Arts Institute of New York University; the publishers unhesitatingly describe him as "the foremost authority in the world." The text is supported by 110 drawings and figures and 192 plates, all black and white photographs except the frontispiece. One encounters again the problem of art-book publishing. The writing is clear, scholarly exposition, packed with information, references to surviving buildings and structural evidences, securely tied in with the historical background. The first chapter should be read to supplement any history of the early Christian church, the

transition of its meeting places from "community houses" (homes slightly adapted for the sacred service but indistinguishable from other houses in the neighborhood, to escape persecution) by way of catacombs (underground burying chambers and passages), martyria (tombs of martyrs, like the shrine of St. Peter found under the altar of St. Peter's, Rome) and basilica to the first public churches. These in turn took on some of the character of royal palaces to complement the elevation of the church under Constantine and the new concept of Christ as King, with the Emperor as his earthly representative trying to impose peace by conciliation or by force upon the quarrelsome and often brutally mob-ridden factionaries, their quarrels intent less on religion than on divergent definition of the nature of God and Christ.

The detailed survey then covers the church building of the great cities of Christianity, the appearance and growth of a distinctive Byzantine style, its many adaptations, and the history of this Byzantine architecture until the final decline of imperial Byzantium under the Paleologues. At the end "all interest is centered on the decoration, both inside and out. In contrast to the figurative arts, architecture is comparatively sterile. The interest of patrons and the talent of artists had turned to painting." An important book for any art, architectural, or archeological library, and for students of the early Christian church.

MONKS, NUNS AND MONASTERIES by Sacheverell Sitwell (Holt, Rinehart and Winston, 1965; \$12.50)

Sacheverell Sitwell dedicates this beautifully made book "In loving memory of my sister," Edith Sitwell. Both the proofreading and his style deteriorated in the later chapters. It is the latest of his studies in architecture, the baroque, and the spirit of former times as revealed by surviving signs and signatures; writing of a nunnery long vacant he will mention the survival of the distinctive candy those nuns made. The chapters on England are particularly rich in information about the vast number of English monastic foundations, the peculiar glories of their architecture, in its time the most splendid in Europe, the slow decline in monastic population from the middle ages until the reign of Henry VIII, who to line his tax-bare pockets wiped them out, hanging recalcitrant abbots over their portals, pensioning dispossessed nuns and many times razing all their buildings, if he did not award the properties to gentlemen of his faction to make manor houses of them. The great monastic cathedrals were fortunately spared to become seats of his new Anglican church. One might note that the hanged clergy were lucky in comparison with others, who refusing to admit Henry's supremacy, were broken on the wheel, drawn and quartered or in some instances pulled apart by horses. If in our secular age we are more inclined to read in history the excesses of cruelty and exploitation condoned, encouraged and committed by the church, we should not forget the devotion of many heroic clergy.

We are shown in a photograph from 1912 the Abbess of Signa attended by her court of seven nuns: "a convent of noble ladies founded in 1188 . . . the sole surviving relic of the Knights Templar, of, in fact, the Order of St. John of Jerusalem. The nuns wore the clothes of ladies of the twelfth century . . . and wore the red floreated cross of the Order upon their left breasts. The Abbess and Princess Palatine"—many high clergy in Europe had both sacred and profane titles—"had a court about her of seven nuns who were always with her. . . . Divine service was performed with much pomp and majesty; and upon such occasions the nuns wore *rochets* of fine linen and sat in their stalls with silver sceptres in their hands." Then and for festivals the nuns wore the enormous head-dresses of 14th-century royal princesses. During the Spanish Civil War this ancient link with feudal society was destroyed: "the convent was broken into . . . and the nuns were murdered, many of them having been violated. . . ."

On the ancient tombs "the paintings intended for portraits on the coffin-lids . . . could as well have been portraits of the abbesses of Las Huelgas so strong is the Plantagenet influence in their features and their fair hair." At that time the Plantagenet rule covered much of France, as their name-plant, the raw-yellow *plante genet* spreads over rough French hillsides. At Las Huelgas, the founder, Alfonso VIII of Castile (1187), "is here with his queen in a huge double sarcophagus, gilded with lions and castles; she being none other than Eleanor of England, daughter of Henry II and sister to Richard Coeur-de-Lion." Napoleon's soldiers pillaged these stone tombs, but a commission from the Spanish museums, opening them with

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papal permission, found there cushions and dresses with trains of cloth-of-gold, surcoats and coronets. During the French Revolution the Jacquerie tore down French monasteries, leaving such remnants as the vestige of the choir of the great monastic church of Cluny. At St. Denis, outside Paris, the bronze doors given by Charlemagne were destroyed, and the remains of French kings and warriors entombed there—Pepin, father of Charlemagne, Francis I, Henry IV, Duguesclin, Turenne—were thrown into a trench filled with quicklime. "Louis XIII was a mummy; Louis XIV a black and shapeless mass of unguents."

Though more great and small foundations have been lost than have survived, active monasteries still exist throughout Europe. Sitwell has visited many of them and describes them as they were and as they are today, ruined, restored, devastated, or, with one Danubian forest site he visited, a congregation of ancient monks almost forgotten. He takes us through the Austrian baroque, the Bavarian rococo, through Italy and the Two Sicilies, Spain, Portugal, France, to Belgium, Rumania, Greece, and Russia, supplementing the text by excellent photographs, a few in color. He tells most lovingly of his favorite order, the white-robed Carthusians: La Grande Chartreuse, Certosa, or Cartuja. The book is a labor of affection, of memory and loss. Yet one must wonder whatever would have become of Europe, if all these thousands of foundations had continued growing and active, accumulating artifacts and wealth, until the present time.

Peter Yates

A GUIDE TO THE ARCHITECTURE OF WASHINGTON, D. C., edited by Hugh Newell Jacobsen (Frederick A. Praeger, \$5.95)

An architectural guidebook would seem to be an easy enough thing to write. What more is it than a list? The buildings may be cleverly grouped by location or style or architect, or they may be limited to what can be encompassed in a walk; yet it is essentially regarded as a list.

If the above is a definition by which many authors and editors abide, it is a good enough explanation of why we have so few good guidebooks. A good guide is defined as much by what it eliminates as what it includes. Sifting through a mass of mediocrity to find the gems is the job the visitor expects the guide to perform for him. Judging only from my own requirements when I travel, the ideal guide would pick up and follow through many particular interests. It would tell me that Wright's studio was at this address, Jane Austen lived in this building, Mozart composed in that, open to the public at such and such hours. It would leave out monuments to bygone football players and statues of forgotten vice-presidents.

It would mention the museums with notable collections. And, especially, it would note the outstanding things just outside of town, which technically aren't within the geographical bounds the book sets itself, so that I won't later find myself at home again only to learn how close I was to something unique. Naturally, the guide should concentrate upon architecture, yet it would also include interesting facts from other fields. Addresses, good maps, names, architects, times open, specific features of interest, are, of course, mandatory. It would be organized to a visitor's convenience, with limits of a comfortable walk, where possible, instead of presupposing the use of an automobile. It might even suggest good restaurants and theaters. But more than all of these features, raising it from a mere list to a piece of literature in its own right, the ideal guidebook will have that spark of interest, that enthusiasm of its own, that will make me want to go and see all it describes.

I try to collect the architectural guidebooks that I come across, under the theory that sooner or later I'll visit wherever-it-is, but I've never found any that meet all these wishes. The best I have found are those of Ada Louise Huxtable. Although these fail in some respects; *Classic New York*, for example, arranges tours by type of building rather than area, which is inconvenient to a short-term visitor; nevertheless, Mrs. Huxtable makes me hunt for an excuse to travel to New York. Her enthusiasm is great and is communicated with great immediacy. Most ordinary guidebooks, of course, are not geared to the requirements of an architect, and tend to list far too many extraneous items and places. I should add that other emphasis often do not debar a book from being an architectural guide. Waverly Root's *The Foods of France* is not only a superb, complete tour of eating, but an interesting architectural and historical guidebook as well. In fact, an architectural guidebook written in Mr. Root's fashion would go far toward being the

embodiment of my ideal guide.

I fear my wishes are vain, and I will have to employ the guides I have available. Nevertheless, I shall measure the books I come across against my ideal. *A Guide to the Architecture of Washington, D.C.*, sponsored by the Washington Chapter of the American Institute of Architects, succeeds in some categories and fails in others. Its maps are excellent; it has walking tours well designed and arranged on those maps. It has a succinct history of the city, and even mentions that Greenbelt, Reston and Hollins Hills are near and worth seeing. Each building has an address and a number keyed to the map. Each building is pictured, which both helps in identification and also makes for more interesting reading than a mere series of descriptions.

On the minus side, however, is a lack of discriminating selection. Included are a vast assortment of government buildings whose only distinguishing quality is their stupefying size. I might expect to find them on a commercial guided tour, but not in an architectural guidebook. Substituting quality for discrimination only makes the reader question the author's taste in architecture.

But worst is the lack of any spark. The Chesapeake and Ohio Canal does not inspire a stroll, the shops of Georgetown do not inspire window shopping, the embassies do not inspire a drive; in short, the book does not poke up enough wanderlusts to inspire a trip to Washington. And this is a pity; Washington has the enticing architectural wares; what is needed is a guide which places them in a proper setting.

Alan Raphael

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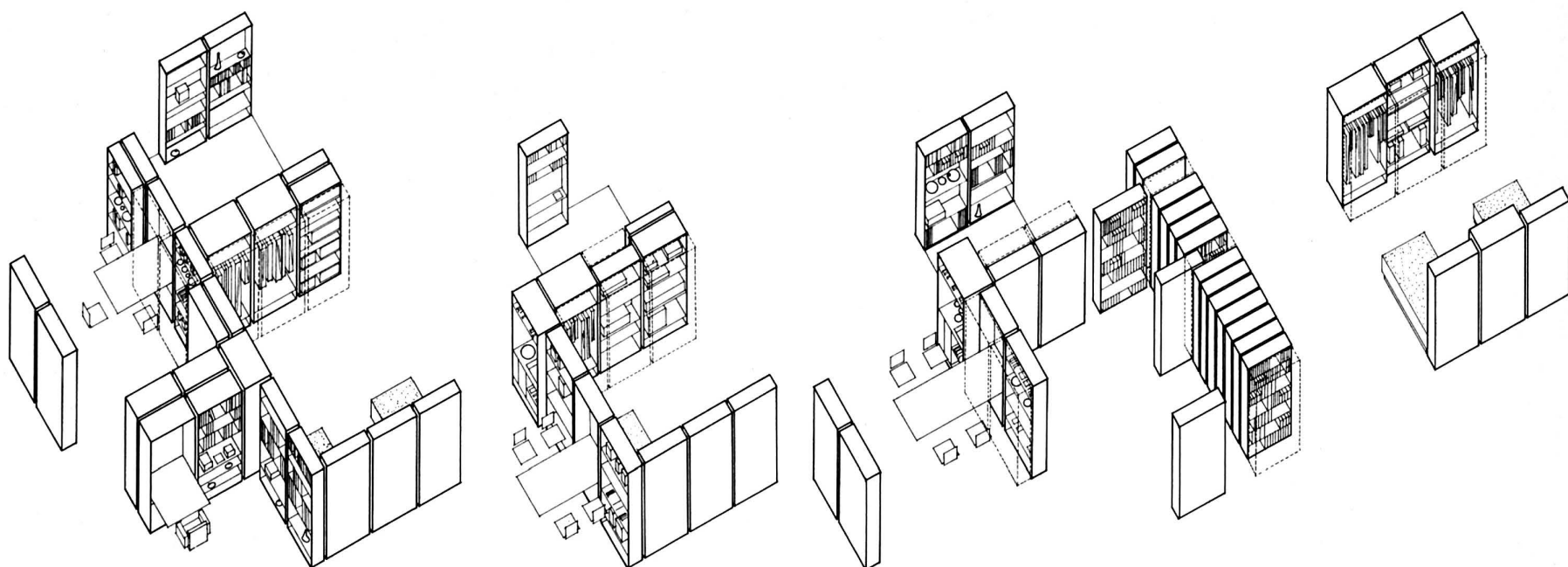
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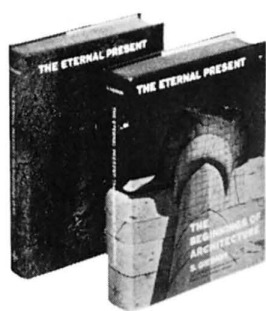
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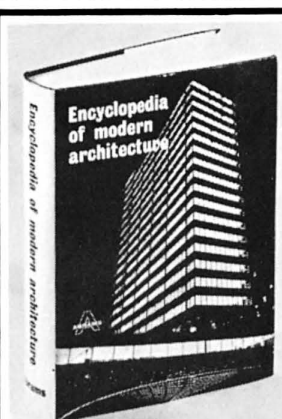
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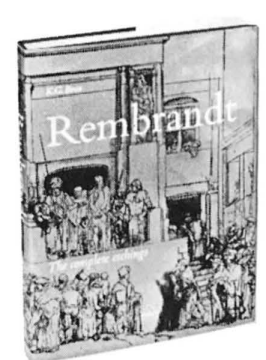
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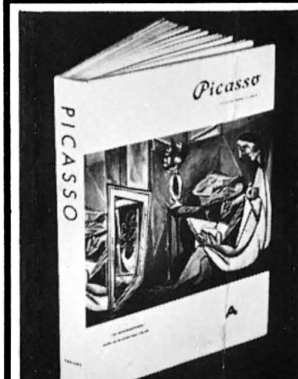
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